

Issue Evaluation

Presented to the Office of Defects Investigation

By

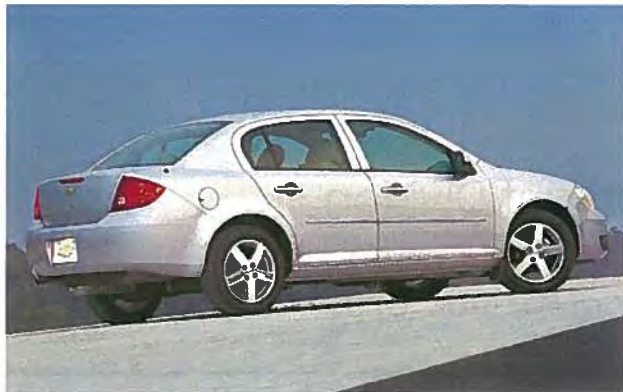
The Defects Assessment Division

Contains Pre-Decisional Material For Official Use Only

Issue:	IE07-080
Date Submitted:	5-Sep-07
Subject:	Non-Deployment of Airbags
Prompted by:	Consumer Complaints/Fatal Crash Reports
Supported by:	Consumer Complaints / EWR Data
Investigator:	Donovan Green / Daniel Hillman
Subject Vehicles:	2003, 2004, 2005 Saturn Ion 2005, 2006 Chevy Cobalt
Population:	Saturn Ion: 288,463 Chevy Cobalt: 389,203
Problem Description:	Driver and passenger side frontal airbags fail to deploy during crash events where injury severity, CDR data, structural deformation and deaths suggest the airbags should have deployed.
Complaints	29
Crashes	29
Injuries	11
Deaths	4
Other (Describe "Other")	14 (Field Reports)
Additional Comments	

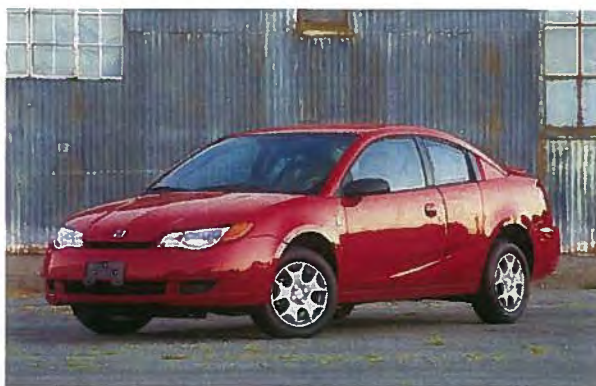
ISSUE EVALUATION MEMORANDUM

TO: OFFICE OF DEFECTS INVESTIGATION
FROM: DEFECTS ASSESSMENT DIVISION



CHEVY COBALT

FIGURE 1



SATURN ION

FIGURE 2

I. Issue Identification

Vehicle/System Description:

2005/2006 Chevy Cobalt shown in figure 1.
2003/2004 Saturn Ion shown in figure 2.

Alleged Defect:

The frontal airbags in the 2003/2004 Saturn Ion and 2005/2006 Chevy Cobalt may not deploy in certain crash events where supporting evidence shows that the airbags should have deployed. Failure of an airbag to deploy can result in reduced protection for vehicle occupants, and may result in injury or death.



Figure 3a.



Figure 3b.

Risk Assessment:

Airbag systems are designed to restrain and provide an increased level of protection for vehicle occupants during a crash event. Failure of the airbag system to deploy during a substantial crash event can result in reduced protection for vehicle occupants, and may result in injury or death.

II. Problem Experience

Past Recalls:

No known past recalls were found. A total of 4 technical service bulletins related to wiring were found for the Cobalt (3) and Ion (1).

TSBs # 1872063 / 06-09-41-008A concern, a loose, missing or broken Connector Position Assurance (CPA) retainer, loose terminal connection, or a pinched harness which would lead to an intermittent or current SIR indicator on the instrument panel cluster.

TSB # 1752381 refers to a wet Passenger Presence Sensor (PPS) which may affect the ability of the system to sense the presence of a passenger, and thus the ability to command an airbag deployment if necessary.

The final TSB# 1588790 refers to a faulty SIR coil assembly.

Consumer Complaints:

ODI has received over 29 consumer complaints on this subject. The earliest complaints were received in 2003. Approximately eight of these complaints arrived since May 2006. Vehicles involved fall between 3600 and 49,900 miles at the time of failure. Most of the consumer complaints claim that their subject vehicles were in a substantial collision at the time of failure (pre-crash speed > 30 MPH). In addition, it should be noted that in at least 6 of the more serious cases (4 cases with at least one fatality and 2 cases with serious injuries), the vehicle veered off the improved road and later collided with some natural object (i.e. small boulder, tree, or ditch).

NHTSA Special Crash Investigations:

Investigations were conducted for two of the more recent non-deployment cases. One case in Wisconsin that involved two fatalities was investigated by Special Crash Investigation (SCI). The vehicle, a Chevy Cobalt; VOQ #10173621) was driven by an unbelted female with two unbelted passengers on a rural highway. The driver lost control of the vehicle, veered off the road, and subsequently struck a tree.

In this case, the vehicle traversed some 'minor' abutments (grass, edge of a driveway, and a phone utility box) before striking a cluster of large trees. The driver sustained major injuries including several fractures. No airbags deployed. The two passengers died.

The second case which occurred in Maryland involved a Chevy Cobalt with a single fatality, a 16 year old female driver. The crash was investigated by a team from Calspan, under the direction and supervision of Investigator Danny Hillman. As in the Wisconsin case, the vehicle departed the paved road at a substantial speed, and traversed a curb, landscaping with large rocks, a 5 in. diameter tree, and finally a 20 in. diameter tree. No airbags deployed. The driver died.

Both reports include pictures, description of events that occurred, accident reconstruction, and CDR Data Report.

Early Warning & Field Reports:

Supporting data has also been submitted by the Early Warning Division that shows similar reports and trends. Of particular interest, ranking studies performed by Bill Duckwitz and Scott Yon for warranty claims on airbags, placed the 2004-2006 Cobalt at the top of the list for both total claims (54, 642) and for claims per 1,000 vehicles (93.4). The 2004-2006 Cobalt also ranked first for total property damage claims, and second for property damage claims per 1,000 vehicles.

Figure 4 below shows a comparison of warranty claim rates for airbags for the Cobalt and several other vehicles from the second quarter of 2003 through the last quarter of 2006.

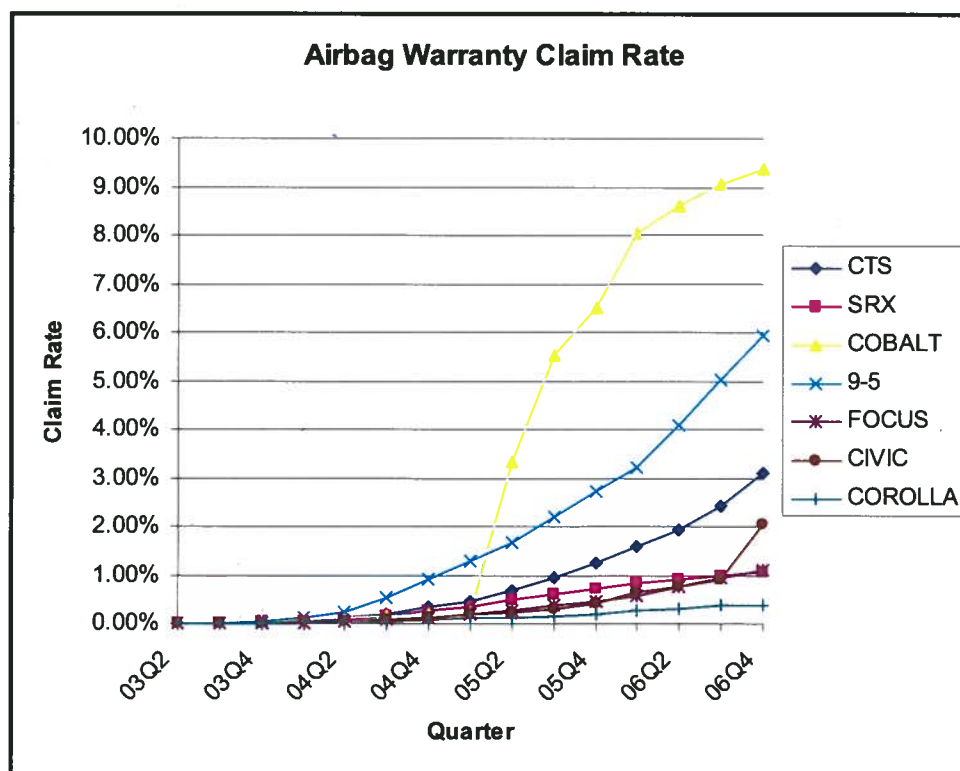


Figure 4.

III. Precedent

Recall History:

ODI#	Date Opened	MMMY	Data at PE/RQ/IE Opening						Description
			Population	Avg Exp Yrs	VOQs	VOQs/ 100k	VOQs/ 100k- Exp Yrs	Crsh	
06V044000	02/07/06	2006 Dodge Durango	335		n/a	n/a	n/a	0	CERTAIN DURANGOS FAILED To CONFORM TO THE REQUIREMENTS OF FMVSS No. 208, 'OCCUPANT CRASH PROTECTION.' THE WRONG OCCUPANT RESTRAINT CONTROLLER (ORC) WAS INSTALLED ON THESE VEHICLES.
06V096000	03/28/06	2006 Various Toyota & Lexus Models	133		n/a	n/a	n/a	0	ON CERTAIN VEHICLES, DUE TO INFLATORS PRODUCED WITH AN INSUFFICIENT AMOUNT OF THE HEATING AGENTS NECESSARY FOR PROPER AIR BAG DEPLOYMENT. IN THIS CONDITION, THE EXPANSION FORCE OF THE GAS MAY BE INSUFFICIENT TO PROPERLY INFLATE THE AIR BAG WHEN THE SRS SYSTEM IS ACTIVATED DURING A CRASH.
06V324000	08/24/06	2004/5 Audi A8	7674		n/a	n/a	n/a	0	ON CERTAIN PASSENGER VEHICLES, DURING PRODUCTION OF THE DRIVER'S FRONTAL AIR BAG, THE AIR BAG MAY NOT UNFOLD PROPERLY IN THE EVENT OF A CRASH AND THEREFORE MAY NOT INFLATE AS DESIGNED.

Figure 5.

IV. Discussion

Several occurrences of crashes with airbag non-deployment have prompted this IE. As reported in multiple complaints received by the Agency, and as evidenced by data gathered in investigations, the frontal airbags in some 2003-2005 Saturn Ion and 2005/2006 Chevy Cobalt may not deploy in certain crash events. Where supporting evidence shows that the airbags should have deployed. Failure of an airbag to deploy can result in reduced protection for vehicle occupants, and may result in injury or death.

ODI has received over 29 consumer complaints for non-deployment on the subject vehicles. More complaints (15) have been received on the Saturn Ion than for the Cobalt (14), however, more fatal crashes have been reported involving non-deployment for the Cobalt, than for the Ion. A total of four fatal Cobalt crashes and one fatal Ion crash have been reported to the Agency. With approximately eight of these complaints arriving since May of last year, there may be an increasing trend in complaints and/or failures.

There doesn't seem to be a discernable pattern with regards to location, vehicle age or exposure. Vehicles involved range in mileage from 3600 to 49,900 miles at the time of failure. Most of the consumer complaints claim that their subject vehicles were in a substantial collision, where vehicle speed was ≥ 30 MPH at the time of collision.

V. Telephone/Email Narratives

VOQ [REDACTED]

October 23, 2006:

Interview Date: 5/25/07 with [REDACTED]. Daughter-in-law was driving a 2005 Cobalt with two passengers (one in the rear), none of the occupants were belted. Vehicle was traveling at approximately 53 mph down a two lane hwy prior to crash. The crash resulted in two deaths and severe injury to driver (Complainant noted multiple fractures, sternum, lacerations and bruises to major organs of the driver.) The vehicle left road, investigation showed that the vehicle shut down, engine and electronics, vehicle left the road as a result (no drugs or alcohol involved). Complainant says he received a recall notice for rewiring for the airbag crash and had service performed at a GM dealership (Jacobson's Pontiac). No airbags deployed at time of crash. Complainant noted that SCI performed an investigation shortly after the event.

VOQ [REDACTED]

Interview Date: 5/23/07 [REDACTED] (sister of deceased) states that her brother was driving approximately 50 mph, when his 2005 Cobalt ran off the road into a wooded area. The driver was reportedly belted, and was the sole occupant in the vehicle. [REDACTED] noted that the seatbelt may not have retracted [locked]. The driver reportedly succumbed to blunt force trauma injuries to the head and chest. [REDACTED] also noted that they did receive a recall notice for airbags. The vehicle was taken in to Cooper Chevrolet. However, did not receive notice to indicate whether any work was performed. [REDACTED] stated that no airbag deployed, but she did make notice of a small corner area where the passenger side airbag seems to have started to deploy. She noticed about a one inch area of material protruding from the passenger side dashboard (post crash).

VOQ [REDACTED]

Interview Date: 5/23/07 [REDACTED] says she was driving, when the vehicles before her came to a stop. Her approximate speed prior to impact was 45 mph. She rear-ended a pick-up truck that was stopped. No maintenance was performed on any related systems. The owner is the original owner of the vehicle. No air bags deployed. The owner also notes that a complaint was made to Chevy about the ineffectiveness of the braking system. Chevy bought back the vehicle as a lemon about 6 months after the crash. [REDACTED] also stated that brake failure was a contributing factor to the crash.

Other narratives from other incidents:

VOQ# 1015146 ON FEB. 10, 2006 MY LITTLE BROTHER WAS ON HIS WAY HOME IN MY 2005 COBALT IT WAS RAINING. HE WENT AROUND A CURVE AN[D] LOST CONTROL OF THE VEHICLE. HE HIT A TOTAL OF 3 TREES THE CAR WAS TOTAL[ED]. THE AIR BAGS [DID] NOT DEPLOY AN THE SEAT BELT DIDN'T CATCH, BC OF THIS MY LITTLE BROTHER LOST HIS LIFE. HE WAS 5'11 AN WEIGHED ABOUT 350 LBS AN CAME UP OUT OF HIS SEAT AND HIT THE TOP OF THE CAR WERE THE METAL MEETS THE WINDSHIELD. NOTHING HAS BEEN DONE. MY FAMILY CALLED CHEVY TO REPORT IT THEY SAID THEY WOULD CALL US BACK IN 24 TO 48 HRS THAT WAS ALMOST 3 WKS AGO AN HAVEN'T HEARD ANYTHING.

VOQ 10179494 ...WHILE DRIVING ON A RAINY DAY ON A MAIN ROAD, THE CONTACT LOST CONTROL OF A 2006 CHEVROLET COBALT AT A SPEED OF 40 MPH, CAUSING THE VEHICLE TO CRASH INTO A HILLSIDE THAT HAD A BIG ROCK STICKING OUT. THE ENTIRE FRONT OF THE VEHICLE SUSTAINED DAMAGE, THE RADIATOR, TRANSMISSION AND ENGINE WERE CRUSHED. THE CONTACT STATED THAT THE FRONTAL AIR BAGS NEVER DEPLOYED. PRIOR TO THE INCIDENT THERE WAS NO WARNING THAT THE AIR BAGS WEREN'T WORKING....

VOQ# 10131710 ...I COLLIDED WITH ANOTHER VEHICLE AND MY AIR BAGS DEPLOYED. HOWEVER, MY DRIVER'S SIDE AIR BAG DEPLOYED INCORRECTLY. RATHER THEN ONE LARGE AIR BAG, IT CAME OUT IN TWO PIECES DUE TO A FAILURE IN THE STEERING WHEEL "OPENING" COMPLETELY TO RELEASE THE ENTIRE AIR BAG. THIS LEFT THE TOP PORTION OF THE STEERING WHEEL EXPOSED...

VOQ# 10183991 ...THE CONTACT STATED THAT WHILE DRIVING THE 2004 SATURN ION AT ABOUT 30 MPH, ANOTHER VEHICLE TURNED IN FRONT OF THE CONTACT'S VEHICLE AND WAS UNABLE TO AVOID HITTING THE OTHER VEHICLE. SHE S HIT THE PASSENGER REAR SIDE OF THE OTHER VEHICLE WITH THE FRONT OF THE HER VEHICLE. SHE STATED THAT THE PASSENGER SIDE AIRBAG DEPLOYED, BUT NO ONE WAS SITTING ON THE PASSENGER SIDE OF THE BAG. THE DRIVER SIDE AIRBAG DEPLOYED, BUT DIDN'T DEPLOY FULLY. THE AIR BAG NEVER CAME IN CONTACT WITH HER...

VI. Attachments

1. VOQs
2. Copies of related TSBs
3. Memo & Supporting Documents from EWR Division
4. Copies of SCI & Calspan Investigations

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Preliminary Case Summary
FOR NHTSA'S INTERNAL USE ONLY
ON-SITE AIR BAG NON-DEPLOYMENT INVESTIGATION
SCI Team #2, Case Number IN-06-033
2005 CHEVROLET COBALT
Wisconsin: October 2006

BACKGROUND: This investigation was brought to NHTSA's attention on or before October 26, 2006 by a news story in a Minnesota newspaper. This crash involved a 2005 Chevrolet Cobalt (case vehicle) that ran-off-road, vaulted over a driveway and impacted a telephone utility box and then a tree. The crash occurred in October 2006, at 7:55 p.m., in Wisconsin and was investigated by the applicable county sheriff department. This crash is of special interest because the case vehicle was equipped with multiple Advanced Occupant Protection System (AOPS) features, including dual stage air bags that did not deploy despite a significant frontal impact and the case vehicle's front right passenger [15-year-old, White (non-Hispanic) female] sustained critical injuries as a result of the crash, resulting in her death. In addition, the case vehicle was equipped with an Event Data Recorder (EDR). This contractor inspected the case vehicle on November 6, 2006 and inspected the scene on November 7, 2006. A partial interview was conducted with a relative of the case vehicle's driver on November 6, 2006. This summary is based on the police crash report, scene and vehicle inspections, EDR data, occupant kinematic principles, and this contractor's evaluation of the evidence.

SUMMARY, Crash Environment: The trafficway on which the case vehicle was traveling was a two-lane, major county roadway, traversing in an east and west direction. The roadway had one lane in each direction and was bordered by gravel shoulders. The roadway grade in the area of roadway departure was 6% negative. The speed limit was 89 km.p.h. (55 m.p.h.). At the time of the crash the light condition dark, the weather was cloudy, and the roadway pavement was dry, traveled bituminous. The traffic density at the time of the crash was most likely light, and the site of the crash was rural. See the Crash Diagram at the end of this report.

Pre-Crash: The case vehicle was traveling east in the eastbound lane (Figure 1). The case vehicle's driver was intending to continue eastbound. For an unknown reason, the case vehicle departed the south side of the roadway. The crash occurred on the south side of the roadway on the edge of a wooded area.

Crash: After the case vehicle departed the south side of the roadway, it crossed the south shoulder and the right side tires entered the grass. The case vehicle then encountered the edge of a driveway (Figure 2 below), vaulted and was airborne for approximately 18 meters (59 feet).

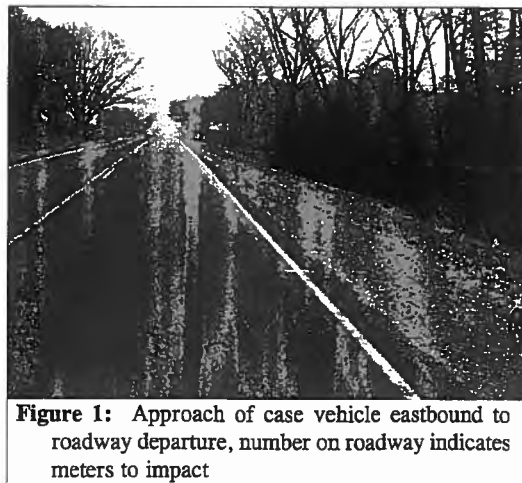


Figure 1: Approach of case vehicle eastbound to roadway departure, number on roadway indicates meters to impact

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The case vehicle touched down in the grass (Figure 3) and traveled an additional approximate 24 meters (79 feet) where the center front of the case vehicle impacted and ran over a telephone utility box (event 1). The case vehicle traveled an additional approximate 15 meters (49 feet) and the front right impacted a clump of large trees (event 2). The center right of the case vehicle initially engaged the leading tree in the clump and then the front right engaged a tree immediately behind and to the right of it (Figures 4 and 5). The first tree was displaced in the ground and broken off at the root. It appeared that a branch from this tree also broke off and impacted the top of the case vehicle and broke out the backlite (event 3). The case vehicle's driver and front right air bags did not deploy as a result of the impact with the clump of trees, possibly due to the yielding nature of the impact with the first tree (See the Crash Data Recording discussion below).



Figure 2: Path of case vehicle to vault at driveway



Figure 3: Vehicle touchdown location (yellow arrow) from vault and approach to telephone utility box impact (red arrow) and impact with clump of trees (blue arrow)

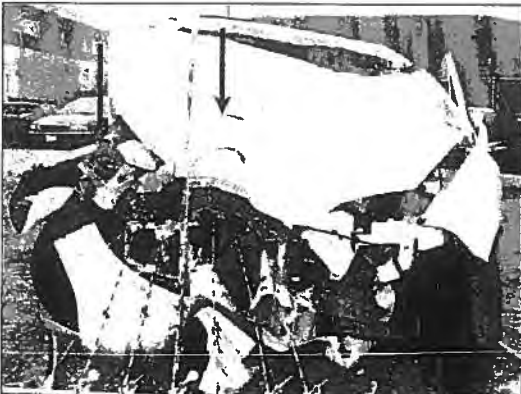


Figure 4: Damage to case vehicle from impact with clump of trees, red arrow shows impact location of tree that broke off, green arrow shows impact location of second tree. vertical scale in tenths of meter



Figure 5: Police on-scene photo of impacted clump of trees, arrows shows broken/uprooted tree

Post-Crash: As a result of the tree impact, the case vehicle rotated clockwise approximately 90 degrees and came to rest heading southwest (Figure 6 below). At final rest the case vehicle was approximately 3 meters (10 feet) north of the impacted clump of trees.

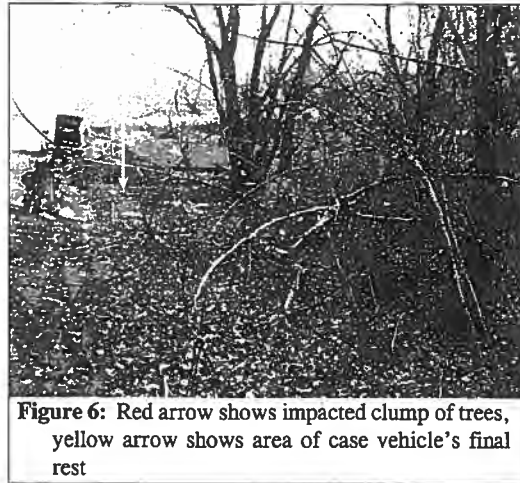
Case Vehicle: The 2005 Chevrolet Cobalt was a front wheel drive, four-door sedan (VIN: 1G1AK52F657-----) equipped with 2.2L, L4 engine and a four-speed automatic

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transmission. The front seating row was equipped with bucket seats with adjustable head restraints, tilt steering column, dual stage driver and front right passenger air bags; driver and front right passenger manual, three-point, lap-and-shoulder safety belt systems with adjustable upper anchors, usage sensors and pretensioners. The back seating row was equipped with a bench seat with folding backs, non-adjustable head restraints in the outboard seating positions and manual, three-point, lap-and-shoulder belts in all three seating positions. In addition, the case vehicle was equipped with a LATCH system for securing child safety seats. Side curtain air bags were an option, but the case vehicle was not so equipped. Four-wheel anti-lock brakes were also an option, but it is unknown if the case vehicle was so equipped. The case vehicle's wheelbase was 262 centimeters (103.1 inches). The case vehicle's odometer reading at the time of the vehicle inspection was unknown because the case vehicle was equipped with an electronic odometer.



Certain 2005 Chevrolet Cobalts were subject to one of two conditions that required recall to a dealership for correction. See attached General Motors bulletin and GM Vehicle Inquiry System Summary (**Figures 20-24**) at the end of this report. The first condition involved possible reversal of the steering column mounted air bag module wiring. The second condition involved possible loss of air conditioning due to voltage spikes from abnormal fan switching. The documentation on the case vehicle indicated that it was subject to the air conditioning related condition. The documentation indicated that the vehicle was returned to the dealership and the condition was corrected by replacement of the air conditioning jumper harness on January 2, 2006.

Vehicle Exterior: Based on the vehicle inspection, the CDCs for the case vehicle were determined to be: **12-FC??-1** (0 degrees) for the impact with the telephone utility box (event 1). Damage from the subsequent tree impact overlapped this impact, so only a partial CDC could be assigned. The CDC for the tree clump impact (event 2) was determined to be: **12-FZEW-6** (0 degrees) and **00-TZDW-2** for the tree branch impact to the top plane (event 3). The WinSMASH reconstruction program, barrier algorithm, was used to reconstruct the case vehicle's Delta Vs for the tree impact. The preliminary Total, Longitudinal, and Lateral Delta Vs are, respectively: 88.0 km.p.h. (55.0 m.p.h.), -88.0 km.p.h. (-55.0 m.p.h.), and 0.0 km.p.h. (0.0 m.p.h.). The case vehicle's EDR recorded a maximum total velocity change of 96 km.p.h. (59.84 m.p.h.) The case vehicle was towed due to damage.

Exterior Damage: The case vehicle's initial impact with the telephone utility box involved the center portion of the front bumper. The precise location of the damage could not be determined due to the overlapping damage and missing portions of the front bumper fascia. The case vehicle's impact with the tree involved the front right portion of the case vehicle. The front bumper, grille, hood, and right fender were directly contacted and crushed rearward. The direct damage began at the front right bumper corner and extended approximately 45 centimeters (17.7

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inches) along the front of the of the vehicle. The front crush profile was taken at the bumper level. The maximum residual crush was determined to be 121 centimeters (47.6 inches) occurring at C₃ (Figures 7 and 8). The direct damage from the tree branch impact involved the roof and the backlite. There was a dent located near the right “C”-pillar and the backlite was broken out.



Figure 7: Right side view of crush to front of case vehicle from impact with clump of trees

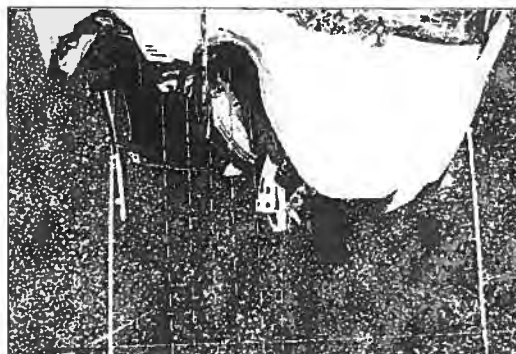


Figure 8: Top view of crush to front of case vehicle from impact with clump of trees, each increment on rods is 5 cm (2 in)

The case vehicle's recommended tire size was P195/60R15 and the case vehicle was equipped with tires of this size. The case vehicle's tire data are shown in the table below.

Tire	Measured Pressure		Recommend Pressure		Tread Depth		Damage	Restricted	Deflated
	kpa	psi	kpa	psi	milli-meters	32 nd of an inch			
LF	0	0	207	30	3	4	None	No	Yes
RF	0	0	207	30	2	3	Wood pieces in inner bead	Yes	Yes
LR	165	24	207	30	5	6	None	No	No
RR	172	25	207	30	4	5	None	No	No

Vehicle Interior: Inspection of the case vehicle's interior (Figures 9-11 below) revealed that the right side of the steering wheel was severely bend forward and the steering column crushed forward and upward (Figure 12 below) due to driver loading. The driver's knee bolsters had been heavily contacted by the driver's knees and broken out. There were scuff marks on the right instrument panel and glove box door due to loading by the front right passenger. The front right passenger's seat back was also deformed forward due to loading by the unrestrained back right passenger. Passenger compartment intrusion involved the driver's and front right passenger's toe pans, which intruded longitudinally 18 centimeters (7.1 inches) and 23 centimeters (9 inches) respectively. The brake pedal also intruded longitudinally 18 centimeters (7.1 inches), and the right instrument panel intruded 18 centimeters (7.1 inches) into the front right passenger's occupant space. Lastly, the front right passenger's seat back intruded forward nearly to the instrument panel (Figure 10 below).

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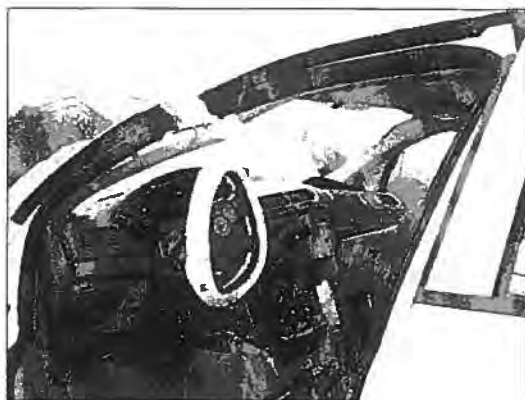


Figure 9: Overview of steering wheel, instrument panel and windshield from driver's door



Figure 10: Left side view of steering wheel, instrument panel and displacement of front right seat back due to loading by back right passenger

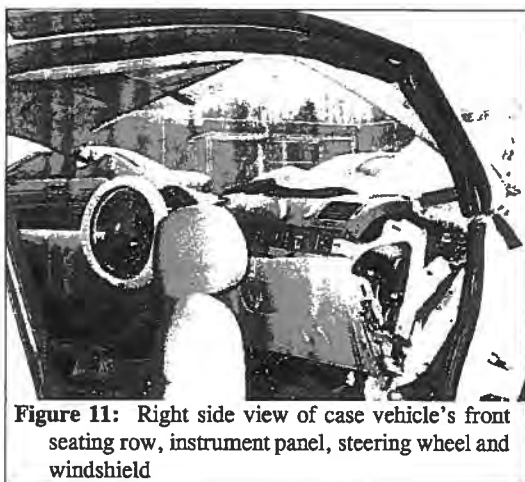


Figure 11: Right side view of case vehicle's front seating row, instrument panel, steering wheel and windshield

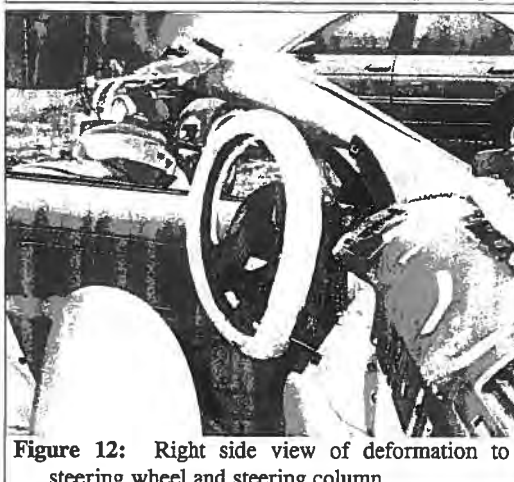


Figure 12: Right side view of deformation to steering wheel and steering column

Supplemental Restraints: The case vehicle was equipped with dual stage driver and front right passenger air bags. Neither of these air bags deployed in this crash. See the following Crash Data Recording discussion.

Crash Data Recording: The EDR download file was provided to this contractor by the investigating deputy. The data indicated that only a non-deployment event was recorded. The EDR reports are presented in **Figures 14-19** at the end of this report. The pre-crash data indicated that the case vehicle was traveling 144 km.p.h. (71 m.p.h.) at the 5, 4 and 3 second sample points prior to algorithm enable. Vehicle speed was then recorded as 0 km.p.h (0m.p.h.) at the 2 and 1 second sample points. In addition, the other pre-crash data items in this block were recorded as invalid. The system status data indicated that the event recording was complete and the multiple event counter was recorded as 0. The service engine soon lamp and service vehicle soon lamp were both recorded as off. The SIR warning lamp was also recorded as off, and the number of ignition cycles the SIR warning lamp was off continuously was recorded as 2,783. The number of ignition cycles since the data trouble codes were last cleared was recorded as 254 and the six diagnostic trouble code columns were recorded as N/A. The recorded data appeared to indicate

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that the air bag system was functioning properly prior to the crash. Lastly, the vehicle power mode status was recorded as accessory. This would appear to indicate that the ignition switch was not in the run position at the time of the tree impact. This may explain why zeros were recorded for vehicle speed and engine speed in the final two seconds of the pre-crash data regarding. The reason the power mode status was recorded as accessory is not known. It is possible the ignition could have been knocked to the accessory position, perhaps by the driver's leg, at the time of the vault. It is also possible that the invalid responses recorded in the remaining pre-crash data items could have been the result of a power interruption due to the severity of the crash.

The analysis of the EDR data, specifically the first approximate 40 milliseconds of the crash pulse, indicated that the yielding of the first impacted tree resulted in a flattening of the initial crash pulse. As a result, the case vehicle's crash sensing algorithm, which must make its deployment decision within the very early milliseconds of the crash following algorithm enable, possibly predicted that the crash would not be severe enough to require air bag deployment and did not issue a deployment command. Lastly, given the EDR indication that the ignition switch was in the accessory position at the time of the impact, it is not known what role, if any, it may have played in the non-deployment of the air bags. This contractor is continuing its investigation into this aspect of the crash. At this point, it appears the yielding of the tree may have been the likely cause of the non-deployment.

Case Vehicle's Front Right Passenger: Immediately prior to the crash, the case vehicle's front right passenger [15-year-old, White (non-Hispanic) female, 127 centimeters and 45 kilograms (50 inches 100 pounds)] was most likely seated in an upright position with both feet on the floor. The position of her arms and hands and is not known. The position of the passenger's seat track and seat back is not known due to the damage to the seat as a result of loading from the unrestrained back right passenger.

Based on this contractor's vehicle inspection, the case vehicle's front right passenger was not restrained by her manual, three-point, lap-and-shoulder, safety belt system. There was no evidence of load marks on the safety belt or "D"-ring. In addition, the police crash report indicated that the passenger was unrestrained and found trapped between her seat, the instrument panel and right front door.

Just prior to the crash, the case vehicle had departed the roadway, vaulted and become airborne. As a result, the front right passenger may have been bracing against the instrument panel with her hands. As the vehicle touched down, the front right passenger most likely moved forward as well as down and up in her seat. The impact with the telephone utility box, which is small and easily moved, most likely caused little or no movement to the front right passenger. The subsequent impact with the clump of trees caused the passenger to continue forward along a path opposite the case vehicle's 0 degree direction of principal force as the case vehicle decelerated and her knees impacted the knee bolster, her arms and chest impacted the instrument panel and her head most likely impacted the windshield. In addition, her seat back was loaded by the unrestrained back right passenger and extensively shoved forward also forcing her into the instrument panel. As the case vehicle rotated clockwise the right side of her body most likely impacted the right front door. She was found by police entrapped between her seat, the instrument panel and the right front door.

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The case vehicle's front right passenger sustained a police reported "A" (incapacitating) injury. She was transported by ambulance to a medical center and then air lifted to a hospital where she was pronounced dead 4 hours and 33 minutes following the crash. The nature and extent of the front right passenger's injuries are not known at this time.

Case Vehicle's Driver: Immediately prior to the crash, the case vehicle's driver [17-year-old, White (non-Hispanic) female, 168 centimeters and 59 kilograms (66 inches 130 pounds)] was most likely seated in an upright driving position. She most likely had both hands on the steering wheel and was bracing against the steering wheel. She most likely had her left foot on the floor. The position of her right foot is not known. The driver's seat track was adjusted between its middle and forward position and the seat back was slightly reclined. The driver was not wearing glasses or contact lenses at the time of the crash.

Based on this contractor's vehicle inspection and supported by the EDR data, the case vehicle's driver was not restrained by her manual, three-point, lap-and-shoulder, safety belt system. There was no evidence of load marks on the safety belt or "D"-ring. In addition, the police crash report indicated that the passenger was unrestrained and found in an approximate sitting position on the floor in front of her seat with her legs entrapped under the instrument panel.

Just prior to the crash, the case vehicle had departed the roadway, vaulted and become airborne. As a result, the driver was most likely bracing against the steering wheel with her hands. As the vehicle touched down, the driver most likely moved forward as well as down and up in her seat. The impact with the telephone utility box most likely caused little or no movement to the driver. The subsequent impact with the clump of trees caused the driver to continue forward along a path opposite the case vehicle's 0 degree direction of principal force as the case vehicle decelerated and her chest impacted the steering wheel and her knees impacted the knee bolster. The driver's chest impact to the steering wheel causing a fracture to her sternum and liver laceration and deformed the steering wheel to the right and displaced the steering column forward and upward. Her face impacted the windshield lacerating the central part of her face from ear to ear. Her knees impacted and broke the knee bolsters and her feet loaded into the intruding toe pan fracturing her right ankle. Her arms also impacted the instrument panel fracturing one of her arms. The driver moved off her seat and came to rest in an approximate sitting position on the floor. Her legs were entrapped under the instrument and she was removed from the case vehicle by rescue personnel.

The case vehicle's driver sustained a police reported "A" (incapacitating) injury. She was transported by ambulance to a hospital and admitted for treatment of her injuries.

Case Vehicle's Back Right Passenger: Immediately prior to the crash, the case vehicle's back right passenger [18-year-old, White (non-Hispanic) female, 173 centimeters and 57 kilograms (68 inches 125 pounds)] was most likely seated in an upright position with her feet on the floor. The position of her hands and arms is not known. Her seat track and seat back were not adjustable.

Based on this contractor's vehicle inspection, the case vehicle's back right passenger was not restrained by her manual, three-point, lap-and-shoulder, safety belt system. There was no

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evidence of load marks on the safety belt or “D”-ring. The damage to the front right passenger’s seat back also indicated the passenger was not restrained. In addition, the police crash report indicated that the passenger was unrestrained.

Just prior to the crash, the case vehicle had departed the roadway, vaulted and become airborne. As a result, the back right passenger was likely bracing against the front right seat back with her hands. As the vehicle touched down, the passenger most likely moved forward as well as down and up in her seat. The impact with the telephone utility box most likely caused little or no movement to the back right passenger. The subsequent impact with the clump of trees caused the passenger to continue forward along a path opposite the case vehicle’s 0 degree direction of principal force as the case vehicle decelerated and her face, torso and legs loaded into the front right seat back pushing the seat back extensively forward (**Figure 13**). She most likely traveled over the seat back and possibly impacted her head on the roof or windshield. The passenger most likely rebounded off the seat and as the case vehicle rotated clockwise, she most likely impacted the right rear door. She was found lying face up across the back seat with her feet in the floor pan behind the driver’s seat. She was removed from the vehicle by rescue personnel.



Figure 13: Damage to front right passenger’s seat back due to loading by unrestrained back right passenger

The case vehicle’s back right passenger sustained a police reported “A” (incapacitating) injury. She was air lifted from the scene to a hospital and admitted for treatment of her injuries. The nature and extent of her injuries are not known at this time.

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EVENT DATA RECORDER DATA

CDR File Information	
Vehicle Identification Number	1G1AK52F657*****
Investigator	
Case Number	
Investigation Date	
Crash Date	
Filename	IN06033.CDR
Saved on	Wednesday, November 2006 at 08:01:06 AM
Collected with CDR version	Crash Data Retrieval Tool 2.800
Collecting program verification number	9238B95E
Reported with CDR version	Crash Data Retrieval Tool 2.800
Reporting program verification number	9238B95E
Interface used to collect data	Block number: 00 Interface version: 4A Date: 11-08-05 Checksum: 7500
Event(s) recovered	Non-Deployment

SDM Data Limitations**SDM Recorded Crash Events:**

There are two types of SDM recorded crash events. The first is the Non-Deployment Event. A Non-Deployment Event is an event severe enough to "wake up" the sensing algorithm but not severe enough to deploy the air bag(s). It can contain Pre-Crash and Crash data. The SDM can store up to one Non-Deployment Event. This event can be overwritten by an event that has a greater SDM recorded vehicle forward velocity change. This event will be cleared by the SDM after the ignition has been cycled 250 times.

The second type of SDM recorded crash event is the Deployment Event. It also can contain Pre-Crash and Crash data. The SDM can store up to two different Deployment Events, if they occur within five seconds of one another. Deployment Events cannot be overwritten or cleared from the SDM. Once the SDM has deployed the air bag, the SDM must be replaced.

The data in the Non-Deployment Event file will be locked after a Deployment Event, if the Non-Deployment Event occurred within 5 seconds before the Deployment Event unless a Deployment Level Event occurs within 5 seconds after the Deployment Event, then the Deployment Level Event will overwrite the Non-Deployment Event file.

SDM Data Limitations:

- SDM Recorded Vehicle Forward Velocity Change reflects the change in forward velocity that the sensing system experienced during the recorded portion of the event. SDM Recorded Vehicle Forward Velocity Change is the change in velocity during the recording time and is not the speed the vehicle was traveling before the event, and is also not the Barrier Equivalent Velocity. This data should be examined in conjunction with other available physical evidence from the vehicle and scene when assessing occupant or vehicle forward velocity change. For Deployment Events and Deployment Level Events, the SDM will record 220 milliseconds of data after deployment criteria is met and up to 70 milliseconds before deployment criteria is met. For Non-Deployment Events, the SDM will record up to the first 300 milliseconds of data after algorithm enable. The minimum SDM Recorded Vehicle Forward Velocity Change, that is needed to record a Non-Deployment Event, is 5 MPH.
- Maximum Recorded Vehicle Velocity Change is the maximum recorded velocity change in the vehicle's combined "X" and "Y" axis.
- Calculated Principal Direction of Force (PDOF) is the arctangent of the maximum observed lateral velocity change divided by the maximum observed longitudinal velocity change. PDOF is displayed where zero degrees is located at the front of the vehicle, with 90 degrees is displayed to the right side of the vehicle and so on, clockwise around the vehicle.
- Event Recording Complete will indicate if data from the recorded event has been fully written to the SDM memory or if it has been interrupted and not fully written.
- SDM Recorded Vehicle Speed accuracy can be affected if the vehicle has had the tire size or the final drive axle ratio changed from the factory build specifications.
- Brake Switch Circuit Status indicates the status of the brake switch circuit.
- Pre-Crash Electronic Data Validity Check Status indicates "Data Invalid" if the SDM receive an invalid message from the module sending the pre-crash data.
- Driver's and Passenger's Belt Switch Circuit Status indicates the status of the seat belt switch circuit. The Passenger Belt Switch Circuit Status for 2006 Chevrolet Cobalt Sport Coupe (AP) model vehicles, with the option package that includes Recaro brand seats (RPO ALV), will always report a default value of "Buckled".
- The Time Between Non-Deployment and Deployment Events is displayed in seconds. If the time between the two events is greater than 5 seconds, "N/A" is displayed in place of the time. If the value is negative, then the Deployment Event occurred first. If the value is positive, then the Non-Deployment Event occurred first.

Figure 14: Case vehicle's CDR File Information and SDM Data Limitations

- If power to the SDM is lost during a crash event, all or part of the crash record may not be recorded.
- The ignition cycle counter relies upon the transitions through OFF->RUN->CRANK power-moding messages, on the GMLAN communication bus, to increment the counter. Applying and removing of battery power to the module will not increment the ignition counter.

SDM Data Source:

All SDM recorded data is measured, calculated, and stored internally, except for the following:

- Vehicle Status Data (Pre-Crash) is transmitted to the SDM, by various vehicle control modules, via the vehicle's communication network.
- The Belt Switch Circuit is wired directly to the SDM.

Figure 15: Case vehicle's SDM data limitations continued

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EVENT DATA RECORDER DATA (CONTINUED)**System Status At AE**

Vehicle Identification Number	**1AK52F*5*****
Low Tire Pressure Warning Lamp (If Equipped)	Invalid
Vehicle Power Mode Status	Accessory
Remote Start Status (If Equipped)	Inactive
Run/Crank Ignition Switch Logic Level	Inactive
Brake System Warning Lamp (If Equipped)	OFF

System Status At 1 second

Transmission Range (If Equipped)	Fourth Gear
Transmission Selector Position (If Equipped)	Fourth Gear
Traction Control System Active (If Equipped)	Invalid
Service Engine Soon (Non-Emission Related) Lamp	OFF
Service Vehicle Soon Lamp	OFF
Outside Air Temperature (degrees F) (If Equipped)	38.3
Left Front Door Status (If Equipped)	Closed
Right Front Door Status (If Equipped)	Closed
Left Rear Door Status (If Equipped)	Unused
Right Rear Door Status (If Equipped)	Unused
Rear Door(s) Status (If Equipped)	Closed

Pre-crash data

Parameter	-2 sec	-1 sec
Reduced Engine Power Mode	OFF	OFF
Cruise Control Active (If Equipped)	No	No
Cruise Control Resume Switch Active (If Equipped)	No	No
Cruise Control Set Switch Active (If Equipped)	No	No

Pre-crash data

Parameter	-5 sec	-4 sec	-3 sec	-2 sec	-1 sec
Vehicle Speed (MPH)	71	71	71	0	0
Engine Speed (RPM)	2496	2496	2496	0	0
Percent Throttle	Invalid	Invalid	Invalid	Invalid	Invalid
Accelerator Pedal Position (percent)	Invalid	Invalid	Invalid	Invalid	Invalid
Antilock Brake System Active (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Lateral Acceleration (feet/s ²) (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Yaw Rate (degrees per second) (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Steering Wheel Angle (degrees) (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Vehicle Dynamics Control Active (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid

Figure 16: Case vehicle's System Status at AE, System Status at 1 Second and pre-crash data

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EVENT DATA RECORDER DATA (CONTINUED)

System Status At Non-Deployment	
Ignition Cycles At Investigation	2784
SIR Warning Lamp Status	OFF
SIR Warning Lamp ON/OFF Time (seconds)	655200
Number of Ignition Cycles SIR Warning Lamp was ON/OFF Continuously	2783
Ignition Cycles At Event	2784
Ignition Cycles Since DTCs Were Last Cleared	254
Driver's Belt Switch Circuit Status	UNBUCKLED
Diagnostic Trouble Codes at Event, fault number. 1	N/A
Diagnostic Trouble Codes at Event, fault number. 2	N/A
Diagnostic Trouble Codes at Event, fault number. 3	N/A
Diagnostic Trouble Codes at Event, fault number. 4	N/A
Diagnostic Trouble Codes at Event, fault number. 5	N/A
Diagnostic Trouble Codes at Event, fault number. 6	N/A
Maximum SDM Recorded Velocity Change (MPH)	59.84
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	170
Driver First Stage Deployment Loop Commanded	No
Driver Second Stage Deployment Loop Commanded	No
Driver Side Deployment Loop Commanded	No
Driver Pretensioner Deployment Loop Commanded	No
Driver (Initiator 1) Roof Rail/Head Curtain Loop Commanded	No
Driver (Initiator 2) Roof Rail/Head Curtain Loop Commanded	No
Driver Knee Deployment Loop Commanded	No
Passenger First Stage Deployment Loop Commanded	No
Passenger Second Stage Deployment Loop Commanded	No
Passenger Side Deployment Loop Commanded	No
Passenger Pretensioner Deployment Loop Commanded	No
Passenger (Initiator 1) Roof Rail/Head Curtain Loop Commanded	No
Passenger (Initiator 2) Roof Rail/Head Curtain Loop Commanded	No
Passenger Knee Deployment Loop Commanded	No
Second Row Left Side Deployment Loop Commanded	No
Second Row Left Pretensioner Deployment Loop Commanded	No
Third Row Left Roof Rail/Head Curtain Loop Commanded	No
Second Row Right Side Deployment Loop Commanded	No
Second Row Right Pretensioner Deployment Loop Commanded	No
Third Row Right Roof Rail/Head Curtain Loop Commanded	No
Second Row Center Pretensioner Deployment Loop Commanded	No
Multiple Event Counter	0
An Event(s) Preceded the Recorded Event(s)	No
An Event(s) was in Between the Recorded Event(s)	No
An Event(s) Followed the Recorded Event(s)	No
The Event(s) Not Recorded was a Deployment Event(s)	No
The Event(s) Not Recorded was a Non-Deployment Event(s)	No
Crash Record Locked	No
Vehicle Event Data (Pre-Crash) Associated With This Event	Yes
Deployment Event Recorded in the Non-Deployment Record	No
Event Recording Complete	Yes
Estimated Principal Direction of Force (PDOF) degrees	5

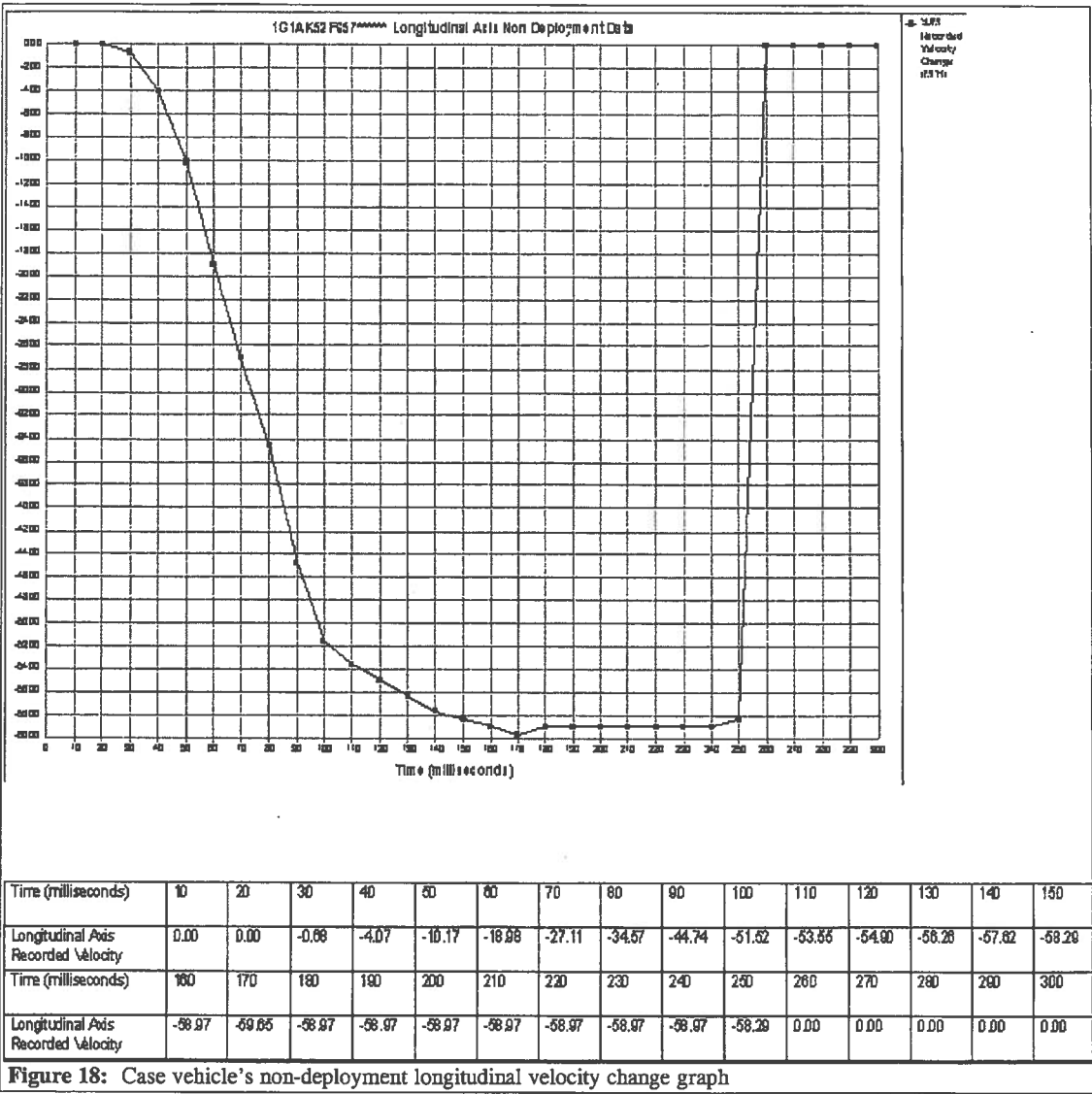
Figure 17: Case vehicle's System Status at Non-Deployment report

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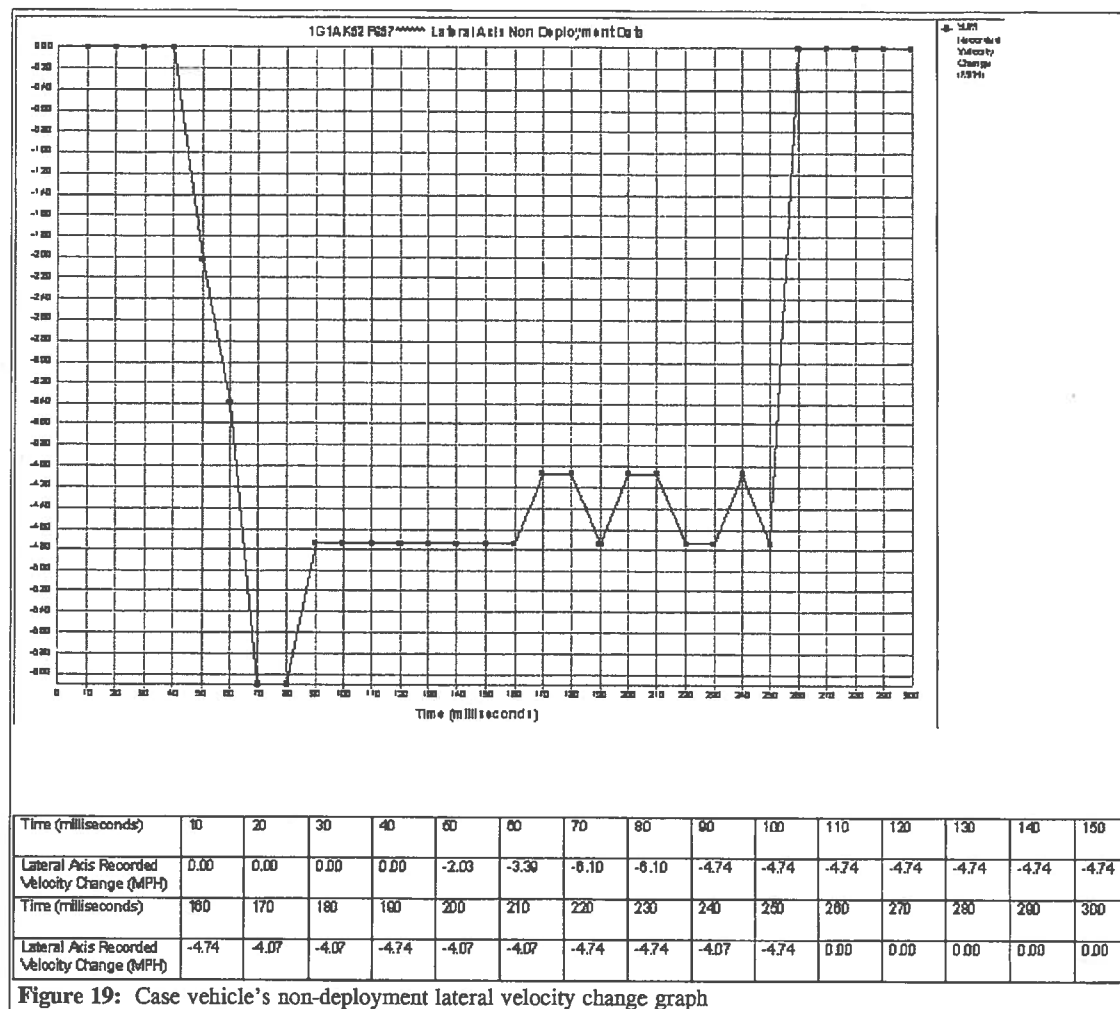
EVENT DATA RECORDER DATA (Continued)



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EVENT DATA RECORDER DATA (Continued)

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GENERAL MOTORS' BULLETIN


< Back	Forward >	Document ID# 1686453	Feedback	Print
<p>Subject: Customer Satisfaction - A/C System Wiring or Dual Stage Airbag Module Wiring #05034A - (07/22/2005)</p> <p>Models: 2005 CHEVROLET COBALT 2005 PONTIAC PURSUIT</p>				
				
<p>THIS BULLETIN IS BEING REVISED TO INCLUDE ADDITIONAL LABOR TIME IN THE EVENT THAT THE VEHICLE IS BROUGHT IN WITH AN INOPERATIVE A/C SYSTEM. DISCARD ALL COPIES OF BULLETIN 05034 ISSUED MAY 2005.</p>				
<p>Condition</p> <p><i>Certain 2005 Chevrolet Cobalt and Pontiac Pursuit vehicles have one of two conditions, 1) the steering column mounted airbag module wiring may be reversed. The driver's air bag will deploy under the same conditions (see "When Should An Air Bag Inflate?" in your owner's manual) and the vehicle meets the occupant protection requirements of the Motor Vehicle Safety Standards. In the event of a moderate frontal impact, however, the airbag would deploy fully instead of at the reduced level described in your owner's manual, or 2) vehicles equipped with a 2.2L engine (L61) and air conditioning (C67), voltage spikes from abnormal fan switching can damage the air conditioning pressure sensor transducer, resulting in a loss of air conditioning. Damage is more likely to occur if the abnormal fan switching occurs when the vehicle is being driven in city traffic and when the outside temperatures are 70 °F (21 °C) or higher. The spikes can also cause the engine to operate in a reduced power mode. If this occurs, the Driver Information Center will display "ENG PWR REDUCED", and the maximum throttle opening will permit a speed of about 30 mph (48 km/h).</i></p>				
<p>Correction</p> <p>Dealers are to 1) modify the circuitry to the airbag module, or 2) install wiring to isolate the voltage spike.</p>				
<p>Vehicles Involved</p> <p>Involved are certain 2005 Chevrolet Cobalt and Pontiac Pursuit vehicles built within these VIN breakpoints:</p>				
Year	Division	Model	From	Through
2005	Chevrolet	Cobalt	57500350	57584601
2005	Pontiac	Pursuit	57500219	57584526

Figure 20: General Motors' bulletin for 2005 Chevrolet Cobalt and Pontiac Pursuit vehicle's

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GENERAL MOTORS' BULLETIN (Continued)

Important: Dealers should confirm vehicle eligibility through GM/VIS (GM Vehicle Inquiry System) prior to beginning program repairs. [Not all vehicles within the above breakpoints may be involved.]

For dealers with involved vehicles, a Campaign Initiation Detail Report containing the complete Vehicle Identification Number, customer name and address data has been prepared and will be loaded to the GM DealerWorld (US) Recall Information, GMinfoNet (Canada) Recall Reports. Dealers will not have a report available if they have no involved vehicles currently assigned.

The Campaign Initiation Detail Report may contain customer names and addresses obtained from Motor Vehicle Registration Records. The use of such motor vehicle registration data for any purpose other than follow-up necessary to complete this program is a violation of law in several states/provinces/countries. Accordingly, you are urged to limit the use of this report to the follow-up necessary to complete this program.

Parts Information

Parts required to complete this program are to be obtained from General Motors Service Parts Operations (GMSPO). Please refer to your "involved vehicles listing" before ordering parts. Normal orders should be placed on a DRO = Daily Replenishment Order. In an emergency situation, parts should be ordered on a CSO = Customer Special Order.

Part Number	Description	Qty/ Vehicle
15785514	Harness, Eng Cool Fan Wrg	1 (for A/C Wiring Repair Only)

Service Procedure

Important: Vehicles involved in this program require only one of the two repair procedures listed in this bulletin.

Determine the appropriate procedure to perform on the vehicle.

- If the vehicle is equipped with a 2.2L engine (L61) *AND* air conditioning (C67), perform only the A/C Wiring (Jumper) Procedure
- If the vehicle is NOT equipped with a 2.2L engine (L61) *AND* air conditioning (C67), perform only the Airbag Wiring Procedure

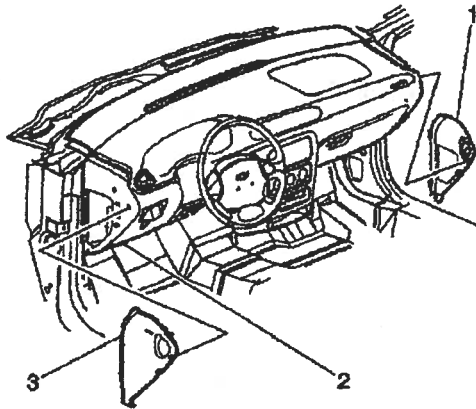
Figure 21: General Motors bulletin continued

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GENERAL MOTORS' BULLETIN (Continued)



1. Remove the SIR fuse from the BCM.
2. With a flat-bladed tool, separate the outer trim cover from the I/P.
3. Pull the outer trim cover rearward from the I/P to disengage the locating tabs.
4. Remove the outer trim cover from the I/P.
5. Disconnect the electrical connector from the trim cover.
6. Remove the connector position assurance (CPA) clip from the connector.
7. Disconnect the connector.
8. Carefully peel back about 2 inches (50 mm) of tape from the male side of the connector.
9. Remove the terminal position assurance (TPA) clip from the male side of the connector.
10. Remove the TPA.
11. Back out the BROWN and PINK wires and swap their positions. (BROWN goes into cavity B1, and PINK goes into cavity A1).
12. Back out the TAN and WHITE wires and swap their positions. (TAN goes into cavity B2 and WHITE goes into cavity A2).
13. Install the TPA clip to the male terminal.
14. Rewrap the wiring.
15. Connect the connector and insert the CPA clip.
16. Connect the connector to the trim cover.
17. Align the outer trim cover locating tabs to the opening in the I/P.
18. Push the outer trim cover locating tabs into the I/P until fully engaged.
19. Press the outer trim cover into the I/P until fully secured.
20. Install the fuse for the airbag

A/C Wiring (Jumper) Procedure

Important: If the vehicle is brought in with an inoperative A/C system, replace the A/C refrigerant pressure sensor using the appropriate procedure in S1 and then perform the repair below.

1. Open the hood.
2. Remove the engine sight shield.

Figure 22: General Motors' bulletin continued

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GENERAL MOTORS' BULLETIN (Continued)

Notice: DO NOT pull on the wiring clip to remove it from the fan shroud. The fan shroud may be damaged. Use a prying tool between the clip and the ear on the shroud or use diagonal cutters to cut the retainer.

3. Remove the wire retainer from the fan shroud and unplug the electrical connector from the fan.
4. Plug the new jumper into the fan and plug the original fan wiring into the jumper.
5. Press the wiring retainer on the jumper into the hole in the fan shroud where the original wire clip was located. Route the wiring so that it will not come into contact with other parts.
6. Install the engine sight shield.
7. Close the hood.

Courtesy Transportation

The General Motors Courtesy Transportation program is intended to minimize customer inconvenience when a vehicle requires a repair that is covered by the New Vehicle Limited Warranty. The availability of courtesy transportation to customers whose vehicles are within the warranty coverage period and involved in a product recall is very important in maintaining customer satisfaction. Dealers are to ensure that these customers understand that shuttle service or some other form of courtesy transportation is available and will be provided at no charge. Dealers should refer to the General Motors Service Policies and Procedures Manual for Courtesy Transportation guidelines.

Claim Information

Submit a Product Program Claim with the information indicated below.

Repair Performed	Part Count	Part No.	Parts Allow	CC-FC	Labor Op	Labor Hours
Rewire Airbag	N/A	N/A	N/A	MA-96	V1361	0.2
Install A/C Jumper Harness	1	--	*	MA-96	V1362	0.2
Add: Replace A/C Refrigerant Pressure Sensor	1					0.2
Courtesy Transportation for vehicles within the New Vehicle Limited Warranty (US & Canadian Dealers)	N/A	N/A	N/A	MA-96	**	N/A

* The "Parts Allowance" should be the sum total of the current GMSPO Dealer net price plus applicable Mark-Up for the jumper harness needed to complete the repair.

** Submit courtesy transportation using normal labor operations for courtesy transportation as indicated in the GM Service Policies and Procedures Manual for vehicles within the New Vehicle Limited Warranty.

Refer to the General Motors WINS Claim Processing Manual for details on Product Recall Claim Submission.

Figure 23: General Motors' bulletin continued

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GENERAL MOTORS' INQUIRY SYSTEM SUMMARY

GM Vehicle Inquiry System Summary								
Home - Summary - Claim History - Vehicle Build - Vehicle Component - Delivery Information - Dealer Information - Service Contract - Warranty Block - Branded Title								
Help								
VIN :		1G1AK52F657						
VEHICLE INFORMATION								
Merchandising Model :		1AK69 - 2005 COBALT 4-DOOR SEDAN			Warranty Start Date :		10/06/2005	
BARS Order Type :		70 - RETAIL - STOCK						
Delivering Dealer :					Selling Source :		13 - CHEVROLET	
					Site Code :			
					Business Associate Code :			
Service Contract :		Yes	Branded Title :		No	Warranty Block :		No
						PDI Status :		Paid
REQUIRED FIELD ACTIONS								
Type	Number	Description				Posted Date	Status	
RC	05034	A/C SYSTEM WIRING OR DUAL STAGE AIRBAG MODULE WIRING				N/A	Closed	
SERVICE INFORMATIONAL ITEMS								
Vehicle Has No Current Record Of Outstanding Service Information								
ON STAR AND XM SATELLITE RADIO INFORMATION								
Vehicle Has No Associated On Star or XM Radio Information.								
APPLICABLE WARRANTIES								
Description		Effective Date	Effective Odometer	End Date	End Odometer			
36/36000 BUMPER TO BUMPER		10/06/2005	405 miles	10/06/2008	36405 miles			
72/100000 SHEET METAL COVERAGE RUST THROUGH		10/06/2005	405 miles	10/06/2011	100405 miles			
96/80000 FEDERAL EMISSION CATALYTIC CONV. AND PCM		10/06/2005	405 miles	10/06/2013	80405 miles			
36/36000 FEDERAL EMISSION		10/06/2005	405 miles	10/06/2008	36405 miles			
60/60000 POWERTRAIN - U.S.		10/06/2005	405 miles	10/06/2010	60405 miles			
CLAIM HISTORY								
R.O Date	R.O Number	Type	Labor Operation				Odometer Reading	
01/02/2006	082152	#	V1362 - 05034 - INSTALL A/C JUMPER HARNESS				9058 miles	

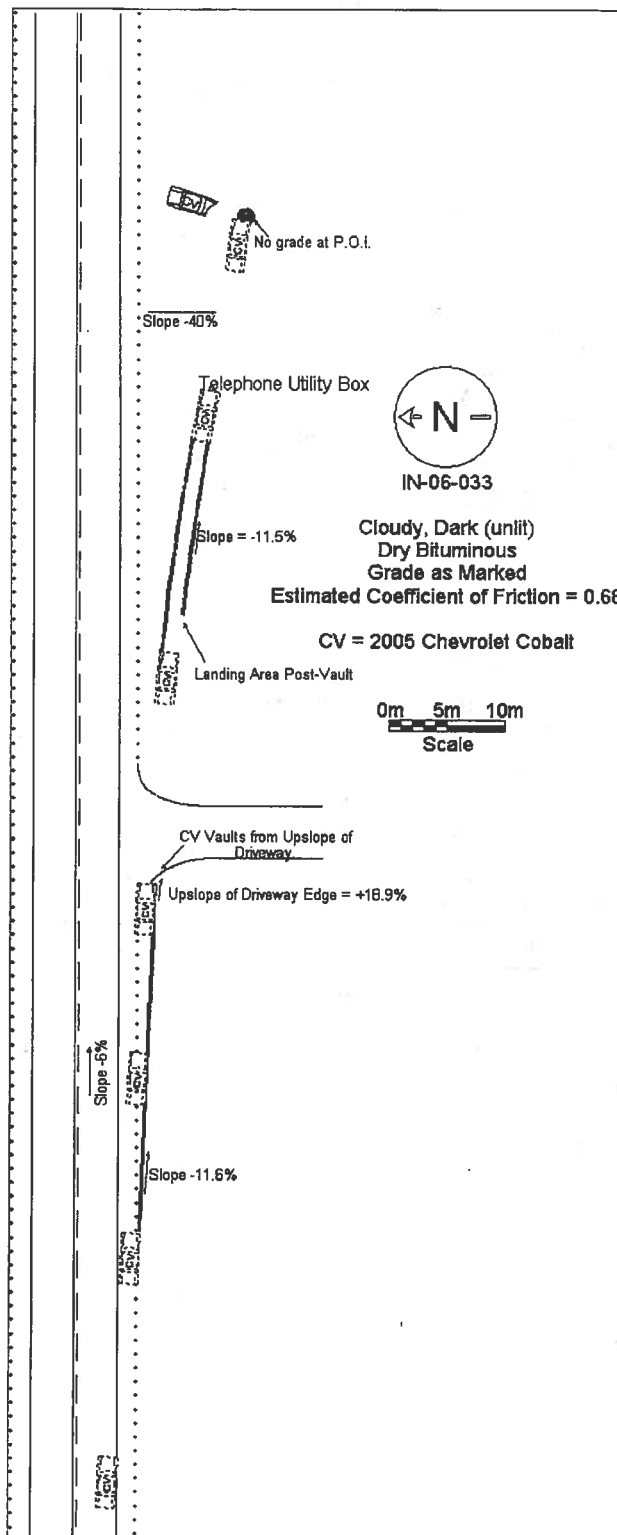
Figure 24: Case vehicle's GM Vehicle Inquiry System Summary report

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CRASH DIAGRAM



CRASH DATA RESEARCH CENTER

Calspan Corporation
Buffalo, NY 14225

CALSPAN ON-SITE AIR BAG NON-DEPLOYMENT INVESTIGATION

CASE NO: CA05-049

VEHICLE: 2005 CHEVROLET COBALT

LOCATION: MARYLAND

CRASH DATE: JULY 2005

Contract No. DTNH22-01-C-17002

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

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The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. CA05-049		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Calspan On-Site Air Bag Non-Deployment Investigation Vehicle: 2005 Chevrolet Cobalt Location: State of Maryland				5. Report Date: February 2005	
				6. Performing Organization Code	
7. Author(s) Crash Data Research Center				8. Performing Organization Report No.	
9. Performing Organization Name and Address Crash Data Research Center Calspan Corporation P.O. Box 400 Buffalo, New York 14225				10. Work Unit No. C00410.0000.0314	
				11. Contract or Grant No. DTNH22-01-C-17002	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Washington, D.C. 20590				13. Type of Report and Period Covered Technical Report Crash Date: July 2005	
				14. Sponsoring Agency Code	
15. Supplementary Note This on-site investigation focused on the severity of the crash, the download of the vehicle's onboard Event Data Recorder (EDR), the non-deployed status of the vehicle's driver air bag system, and the injuries and cause of death for the 16-year old female driver of a 2005 Chevrolet Cobalt.					
16. Abstract This on-site investigation focused on the severity of the crash, the download of the vehicle's onboard Event Data Recorder (EDR), the non-deployed status of the vehicle's driver air bag system, and the injuries and cause of death for the 16-year old female driver of a 2005 Chevrolet Cobalt. The Cobalt was equipped with dual stage frontal air bags for the driver and front right positions. The driver of the Cobalt was unrestrained as the vehicle departed a residential cul-de-sac and struck a large diameter tree with the front right area resulting in severe frontal damage. The frontal air bag system did not deploy in the crash. The driver initiated a forward trajectory and loaded the steering assembly. Her loading of the alloy steering wheel rim fractured the wheel flange, thus separating the wheel from the column. The vehicle rotated in a clockwise direction and impacted several small diameter trees with the left side area, which resulted in a lateral rollover onto its right side. The driver came to rest slumped against the right door and remained conscious at the scene. Rescue personnel arrived on-scene and administered emergency treatment. As the driver was moved from her final rest position, she lapsed into an unconscious state and was without a pulse. She was immediately transported by ambulance to a local hospital where she expired within two hours of the crash of severe liver lacerations.					
17. Key Words Air Bag non-deployment. Fatal injuries to driver.				18. Distribution Statement General Public	
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 14	
				22. Price	

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CALSPAN ON-SITE AIR BAG NON-DEPLOYMENT INVESTIGATION

CASE NO: CA05-049

VEHICLE: 2005 CHEVROLET COBALT

LOCATION: MARYLAND

CRASH DATE: JULY 2005

BACKGROUND

This on-site investigation focused on the severity of the crash, the download of the vehicle's onboard Event Data Recorder (EDR), the non-deployed status of the vehicle's driver air bag system, and the injuries and cause of death for the 16-year old female driver of a 2005 Chevrolet Cobalt (Figure 1). The Cobalt was equipped with dual stage frontal air bags for the driver and front right positions. The driver of the Cobalt was unrestrained as the vehicle departed a residential cul-de-sac and struck a large diameter tree with the front right area resulting in severe frontal damage.



Figure 1. Subject vehicle 2005 Chevrolet Cobalt.

The frontal air bag system did not deploy in the crash. The driver initiated a forward trajectory and loaded the steering assembly. Her loading of the alloy steering wheel rim fractured the wheel flange, thus separating the wheel from the column. The vehicle rotated in a clockwise direction and impacted several small diameter trees with the left side area, which resulted in a lateral rollover onto its right side. The driver came to rest slumped against the right door and remained conscious at the scene. Rescue personnel arrived on-scene and administered emergency treatment. As the driver was moved from her final rest position, she lapsed into an unconscious state and was without a pulse. She was immediately transported by ambulance to a local hospital where she expired within two hours of the crash of severe liver lacerations.

The investigating officer reported the crash to NHTSA's Office of Defects Investigations. The notification was forwarded to the Calspan Special Crash Investigations team on August 15, 2005, and was assigned for on-site investigation due to the reported non-deployed status of the driver's air bag. Cooperation was established with the officer and an on-site investigation was conducted on August 26. The on-site investigation involved a thorough inspection and documentation of the vehicle, downloading of the Cobalt's EDR, and documentation of the crash scene.

SUMMARY***Crash Site***

The crash occurred in a remote, rural residential area at the end of a cul-de-sac roadway during dark, nighttime hours. At the time of the crash, the weather conditions were police reported as overcast with wet environmental surfaces from a previous rainfall. A two-lane asphalt surfaced roadway terminated at a 29.8 m (98') diameter cul-de-sac, which formed a circular loop to the right of the approach roadway. The roadway was 6.4 m (21') in width and was bordered by grass/vegetation with no stabilized shoulders. A 17 m (55.8') diameter grass circle was centered within the cul-de-sac. The posted speed limit for the area was 40 km/h (25 mph). There were no lane lines or edge line markings on the road. A residential driveway intersected the cul-de-sac at the top, left aspect of the circle, with respect to vehicle travel. Numerous trees and a rock-landscaped area bordered the edges of the driveway and the cul-de-sac. At the crash site, the initial impact involved a 13 cm (5") diameter (soft wood) tree, a 51 cm (20") diameter oak tree, and four small trees that ranged in diameters of 5-13 cm (2-5"). The scene schematic is included as **Figure 11**.

Vehicle Data

The subject vehicle in this crash was a 2005 Chevrolet Cobalt LS two-door sedan. The driver's parents purchased the Cobalt new and the 16-year old female driver was a frequent driver of the vehicle. The following Vehicle Identification Number (VIN) 1GAL12F857 (production number omitted) identified the Chevrolet. The Cobalt was equipped with a 2.2 liter DOHC ECOTEC 4-cylinder transverse mounted engine, linked to a four-speed automatic transmission with a console mounted shift selector. The service brakes were power-assisted front disc/rear drum with anti-lock (ABS). The Cobalt was equipped with OEM Pirelli P6 P205/55R16 radial tires that were mounted on OEM five-spoke alloy wheels. The manufacturer's recommended tire pressure for this vehicle was 206 kPa (30 PSI) front and rear with a tire maximum pressure of 302 kPa (44 PSI). The specific data for the tires at the time of the SCI inspection was as follows:

Position	Measured Pressure	Measured Tread Depth	Damage
LF	0 kPa	6.4 mm (8/32")	Inner bead of wheel fractured
LR	189 kPa (27.5 PSI)	7.0 mm (10/32")	None
RF	0 PSI	6.4 mm (8/32")	Extensive fractures of inner wheel
RR	202 kPa (29.5 PSI)	7.0 mm (10/32")	None

The interior of the Cobalt was configured with front bucket seats with adjustable head restraints and manual track adjusters. Both head restraints were found to be in the full down positions. The rear seat was a three-passenger 60/40-split bench seat with integral head restraints for the outboard-seated positions. All interior seated surfaces were cloth. The Cobalt was equipped with manually operated windows and door locks. The outboard rear seat positions were equipped with LATCH (Lower Anchors and Top tethers for CHildren).

Crash Sequence

Pre-Crash

The 16-year old female driver was attending a house party at a residence located at the mouth of the cul-de-sac. She was under the influence of alcohol with a toxicology reported BAC of .17. The driver was not restrained by the manual 3-point lap and shoulder belt safety system. The lack of belt usage was determined from the vehicle inspection and EDR data. She left the party alone during the nighttime hours and attempted to exit the rural subdivision. For an unknown reason, the driver returned toward the cul-de-sac, traveling in a southerly direction on the left side of the two lane non-delineated roadway (**Figure 2**). The EDR recorded pre-crash data for a five-second interval prior to the Non-Deployment record. These data points indicated that the driver was accelerating at 100 percent throttle with a constant increase in engine RPMs and vehicle speed throughout this timeframe. The Cobalt's speed increased from 85 km/h (53 mph) at the five-second interval to 111 km/h (69 mph) at one-second of Algorithm Enable (AE). There was no evidence of braking at the crash site, and the EDR did not record brake application during the five-second pre-crash intervals.



Figure 2. Pre-crash travel direction and overall view of the crash site.

Crash

As the Cobalt traversed the mouth of the driveway, the undercarriage overrode the landscaping, which consisted of flush mounted rocks within the dirt and mulch. The front left area of the vehicle narrowly missed a large rock that was positioned vertically within the landscaped area. The Cobalt continued forward in a tracking mode and impacted a 13 cm (5") diameter pine tree with the front left area of the vehicle. The resultant direction of force for this impact event was 12 o'clock. The impact uprooted the tree, but did not fracture the 13 cm (5") trunk. The Cobalt carried the tree forward as this impact produced a minimal velocity change to the vehicle. (The delta V could not be calculated due to the masking of damage by the subsequent impact). **Figure 3** is an overall view of the crash site.



Figure 3. Overall view of the crash site.

The Cobalt continued forward an additional 2.3 m where it struck a 51 cm (20") diameter hardwood tree with the front right area (**Figure 4**). At impact, the vehicle was in a near tracking attitude, and may have rotated slightly counterclockwise as a result of the initial

small diameter tree impact that was located left of center. This impact was located outboard of the right frame rail and involved the corner area of the Cobalt. The resultant direction of force was within the 12 o'clock sector. (The EDR calculated PDOF was 15 degrees).

As the front bumper beam crushed to a depth of 110 cm (43.4"), the right front tire and wheel engaged the tree. The engagement fractured the alloy wheel and axle, and front suspension components, separating the wheel and brake assembly. The crush extended onto the right side plane of the Cobalt, engaging the right A-pillar and leading edge of the right door. The damage algorithm of the WinSMASH program computed a total velocity change of 61 km/h (37.9 mph) with longitudinal and lateral components of -60 km/h (-37.3 mph) and -11 km/h (-6.8 mph) respectively. The EDR recorded a maximum velocity change of 80 km/h (49.99 mph) at 300 msec of Algorithm Enable (AE). The frontal air bag system did not deploy. Due to the offset right crash, the Cobalt began to rotate in a clockwise (CW) direction as it separated from the tree.



Figure 4. Impact with the 51 cm (20") diameter hardwood tree.



Figure 5. Area of impact with the four small diameter trees and final rest.

As the Cobalt rotated CW, the left side area impacted four small diameter trees that were located 2.8-4.6 m (9-15') south of the 51 cm (20") diameter tree (Figure 5). The lateral impact deflected the trees, which resulted in a ramping effect as the undercarriage of the Cobalt rode up the trees. This ramping effect resulted in an overturn (flip-over) of the Cobalt as it rolled one-quarter turn onto its right side. The Cobalt continued to rotate approximately 40 degrees about its longitudinal axis prior to coming to rest on its side.

Post-Crash

The Cobalt came to rest on its right side, facing in a northeasterly direction (Figure 6). At rest, the vehicle was facing in a direction that was nearly opposite of its initial travel direction. Volunteer fire



Figure 6. On-scene image of the Cobalt at final rest.

fighters and Emergency Medical Service (EMS) personnel arrived on-scene. The fire personnel stabilized the vehicle as the EMS workers attended to the driver. She remained conscious and was conversing with the first responders; however, as she was moved from her rest position against the right door of the vehicle, the driver coded and became unconscious. She was transported by ambulance to a local hospital where she expired.

Vehicle Damage

Exterior

The 2005 Chevrolet Cobalt sustained severe front right damage as a result of the front right impact with the large diameter tree. The additional tree impacts produced minor severity damage to the front left and left area of the vehicle. The subsequent overturn of the vehicle onto its right side resulted in minor damage.

The initial impact with the 13 cm (5") diameter tree was located on the front left area of the vehicle (**Figure 7**). The direct contact damage began 29 cm (11.4") left of center and extended 11 cm (4.25") to the left. The impact dented the hood face to a maximum depth of 10 cm (4.0"). The damage and resulting crush to the bumper system was masked by the subsequent impact with the large diameter tree. The Collision Deformation

Classification for the impact was 12-FLEN-1.



Figure 7. Damage from the 13 cm (5") tree.



Figure 8. Overhead view of the damage from the 51 cm (20") tree.

The Cobalt uprooted and overrode the small diameter tree as it continued 2.3 m (7.5') forward and impacted the 51 cm (20") hardwood tree with the front right area (**Figure 8**). The direct contact damage began 41 cm (16.25") right of center and extended 33 cm (13") to the front right corner. The damage was concentrated outboard of the right frame rail and initially involved the corner of the bumper beam and sheet metal components. As the vehicle crushed, the right front tire/wheel and axle assembly engaged the tree followed by the right A-pillar area. The right corner impact deformed the full width of the frontal structure. The combined induced and direct contact damage at the bumper level measured 67 cm (26.5"), extending from corner-to-corner of the bumper beam. Maximum crush was measured at 110 cm (43.4"), located at the front right corner of the bumper beam. The crush profile at the level of the bumper beam was as follows: C1 = 12

cm (7.6"), C2 = 48 cm (18.75"), C3 = 56 cm (21.9"), C4 = 67 cm (26.5"), C5 = 80 cm (31.4"), C6 = 110 cm (43.4").

As the Cobalt continued forward and began to rotate in a clockwise direction, the right front tire and wheel engaged the tree. This contact fractured the inner aspect of the alloy wheel rim and fractured the right front axle and suspension. The tire/wheel and brake assembly separated from the Cobalt. The right A-pillar engaged the tree and crushed the base of the pillar approximately 67 cm (26.5") rearward. (It should be noted that the investigating officer stated that this area of the vehicle was pulled forward using hydraulic equipment as the officer interrogated the vehicle in search of the air bag control module.) The welded section of the right A-pillar, toe/floor pan, and the right sill separated due to the extensive crush and induced deformation. The CDC for this event was 12-FREE-7.

The left lateral impacts with the four small diameter trees produced minor severity damage to the left side of the vehicle. The position of these trees resulted in near simultaneous impacts. Three of the four tree impact sites were identified on the left side of the Cobalt. The left front axle position impacted a 10 cm (4") diameter tree. This impact fractured the alloy wheel, de-beaded the tire, and fractured the left front suspension components. The mid aspect of the left sill area impacted a 13 cm (4") diameter tree. This lateral impact dented the sill to a maximum depth of 3 cm (1.25"). The third lateral impact involved a 13 cm (5") diameter tree. This impact was located on the sill, immediately forward of the left B-pillar. A 6 cm (2.5") deep dent was noted to the left sill. The fourth left side tree impact did not produce distinct damage associated with this event. This small diameter tree measured 5 cm (2") in diameter. The undercarriage of the passenger compartment was minimally involved with the trees as they were deflected laterally, allowing the Cobalt to ramp up the trees and overturn. The ramping effect of the yielding trees reduced the overall crash severity of these impacts. The CDC's for these impacts are listed in the following table:

Crash Event No.	Object Struck	CDC
3	10 cm tree	09-LFEN-1
4	13 cm tree	09-LPLN-2
5	13 cm tree	09-LPLN-3
6	5 cm tree	09-LB99-1
7	Ground (rollover)	00-RDAO-2

The roof of the vehicle was removed by the fire department during the extrication of the driver. This was accomplished by cutting the upper A-pillars, and the midline of the B- and C-pillars with hydraulic equipment. The doors of the vehicle were removed post-crash as the investigating officer interrogated the vehicle in search of the air bag control module. Fire department personnel used hydraulic equipment to pry open the left door and cut the hinges at the A-pillar. The right door opened during the crash event and was removed post-crash. The officer further noted that hydraulic spreaders were used to move the right lower A-pillar and sill forward, to provide access to the right seat area.

Interior

The interior of the Cobalt sustained severe damage that was associated with exterior deformation, passenger compartment intrusion, and driver contact. Maximum intrusion involved 95 cm (56.5") of rearward displacement of the right corner of the mid instrument panel. The intrusions, magnitude, and direction are listed in the following table for the two front-seated positions.

Position	Component	Magnitude	Direction
Front Left	Toe pan	18 cm (56.5")	Longitudinal
Front Left	Steering column	5 cm (2")	Longitudinal
Front Left	Mid instrument panel	18 cm (7")	Longitudinal
Front Right	Right corner mid instrument panel	95 cm (37.25")	Longitudinal
Front Right	Right lower A-pillar	67 cm (45.75")	Longitudinal

The steering wheel rotated upward as the cowl of the vehicle intruded rearward. The driver's abdominal region loaded the lower aspect of the steering wheel rim. Her loading force fractured the mounting flange of the alloy wheel, thus resulting in complete separation of the steering wheel and air bag module from the column. This assembly was not with the vehicle at the time of the SCI inspection. The separated steering wheel was noted in an on-scene police image of the crash site. In addition to the flange fracture, the driver compressed the energy absorbing steering column as evidenced by 0.6 cm (0.25") of left shear capsule separation and 2 cm (0.75") of right capsule compression. Figure 9 is overall view of the driver's trajectory and contact points.

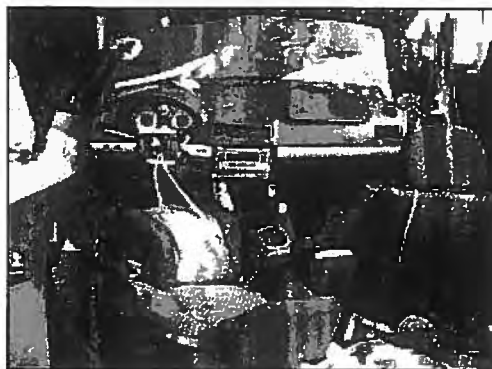


Figure 9. Driver trajectory and contact points.

The driver's knees and lower legs impacted the knee bolster (Figure 10). Her left knee scuffed the bolster 15-22 cm (5.75-8.75") inboard of the left edge of the bolster panel and 15-23 cm (5.75-9.25") below the top edge of the plastic panel. The right knee contact was located 44-50 cm (17.25-19.75") inboard of the left edge and 20-24 cm (8-9.5") below the top edge. A fabric scuff from her right leg was noted to the left

side of the mid instrument panel at its juncture with the center console. This triangular fabric transfer was 13 cm (5") in

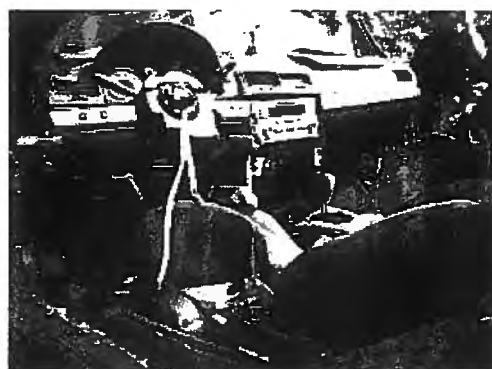


Figure 10. Driver contact to the knee bolster.

height and width.

The interior rear view mirror was fractured and separated from the windshield from probable driver contact. Blood and scuffmarks were present on the upper right instrument panel and front right air bag control module.

The driver probably contacted the console mounted shifter as she responded laterally right to the rollover event. The console and front seats were damaged and severely deformed post-event as the officer searched for the air bag control module.

Manual Safety Belt Systems

The Cobalt was equipped with 3-point manual lap and shoulder safety belt systems for the five designated seated positions. The driver and front right passenger systems consisted of continuous loop belt webbing with sliding latch plates fixed B-pillar mounted D-rings. The driver's belt retracted onto an Emergency Locking Retractor (ELR) while the front right retractor was switchable from the ELR to an Automatic Locking Retractor (ALR) mode. The driver's belt system did not yield evidence of any historical use and was not used by the driver during this crash. At the time of the SCI inspection, the belt system was retracted against the left B-pillar and was free of damage and occupant loading evidence. At rest within the vehicle, the driver was observed by the first responders as unrestrained and slumped against the right front door of the Cobalt.

The rear seat was equipped with three continuous loop belt systems with sliding latch plates and ELR/ALR retractors. There were no rear seat occupants within the vehicle at the time of the crash and the rear belt systems did yield evidence of historical use.

In addition to the manual belt systems, the Cobalt was equipped with LATCH anchors for the two outboard rear seat positions. There were no child safety seats installed in this vehicle.

Frontal Air Bag System

The Cobalt was equipped with dual stage frontal air bags for the driver and front right passenger positions. It should be noted that the driver was the sole occupant of this vehicle and that the frontal air bag system did not deploy as a result of the crash event.

The driver air bag was conventionally housed within the spokes of the steering wheel rim. The driver loaded the steering wheel rim and fractured the alloy steering wheel flange, thus separating the wheel/air bag assembly from the steering column. The steering wheel/air bag module was visible in an on-scene police image of the crash site; however, it was not with the vehicle at the time of the SCI inspection. Based on an exemplar vehicle, the air bag cover flaps were an I-configuration. The clockspring assembly was fractured from the wheel loading and was found spooled-out of the assembly.

The front right passenger air bag was concealed by a single forward hinged air bag module flap in the upper right aspect of the instrument panel. The cover flap was

displaced from the upper instrument panel by the severe intrusion of the right instrument panel. The air bag membrane and module assembly were not damaged or displaced.

As part of the SCI inspection process into the non-deployed state of the driver's air bag system, the 10 amp fuse was located and checked for visible signs of failure. The fuse was located in the interior fuse box that was located under the right instrument panel. This fuse was removed from the appropriately marked position No. 13 and was found to be intact with no evidence of failure. The fuse was subsequently repositioned into the panel.

Event Data Recorder

The 2005 Colbalt was equipped with a sensing and diagnostic module (SDM) that performed the functions of crash sensing, air bag system fault detection, with Event Data Recorder (EDR) capabilities. The SDM was located in the floor of the center console aft of the transmission shifter. The EDR was downloaded through the Diagnostic Link Connector (DLC) using Vetronix software version 2.71.14 and the beta version interface box required for the "Can System" on select 2005 model year vehicles. Power was supplied by reconnecting the vehicle's battery, which maintained power.

The EDR recorded the following System Status at 1 Second of Algorithm Enable (AE):

Transmission Range – Second gear
Transmission Selector Position – Fourth gear
Traction Control System Active – Yes
Outside Air Temperature – 72.5 degrees F
Left Front Door Status – Closed
Right Front Door Status – Closed

The Pre-Crash Data highlights recorded by the EDR were as follows:

Parameter	-5 sec	-4 sec	-3 sec	-2 sec	-1 sec
Vehicle Speed (mph)	53	57	62	65	69
Engine Speed (RPM)	4636	4992	5312	5568	6016
Percent Throttle	100	100	100	100	100
Accelerator Pedal Position	96	96	96	96	96
Antilock Brake System Active	No	No	No	No	No

A Single Non-Deployment Event was recorded for this crash sequence. Key data points recorded by the EDR at the non-deployment event were captured under the System Status at Non-Deployment table. These were recorded as follows:

Ignition Cycles at Investigation –	465
SIR Warning Lamp Status –	Off
SIR Warning Lamp ON/OFF Time (seconds) -	563220
Number of Ignition Cycles SIR Warning lamp Was ON/OFF Continuously -	464
Ignition Cycles at Event -	464
Ignition Cycles Since DTCs were last Cleared -	158

Driver's Belt Circuit Status -	Unbuckled
Diagnostic Trouble Codes at Events 1-6 -	N/A
Maximum SDM Recorded Velocity Change (MPH) -	49.99
Algorithm Enable to Maximum Recorded Velocity Change (msec)-	300
Driver First Stage Deployment Loop Commanded -	No
Driver Second Stage Deployment Loop Commanded -	No
Multiple Event Counter -	1
An Event(s) Preceded Recorded Event(s) -	No
An Event(s) was in Between the Recorded Event(s) -	No
An Event(s) Followed the Recorded Event(s) -	Yes
The Event(s) Not recorded was a Deployment Event(s) -	No
The Event(s) Not Recorded was a Non-Deployment Event(s) -	Yes
Crash Record Locked -	No
Vehicle Event Data (Pre-Crash) Associated With This Event -	Yes
Deployment Event Recorded in the Non-Deployment Record -	No
Event Recording Complete -	Yes
Calculated Principle Direction of Force -	15

Summation of this Crash Event Based on the EDR Output

The 16-year old driver of the Chevrolet Cobalt was operating the vehicle unrestrained. She was traveling at full throttle as evidenced by the increase in engine RPM and the recorded vehicle speed throughout the five-second pre-crash intervals. The frontal air bag system was in a proper operating mode based on the internal diagnostic checks and the recording of no active faults. The air bag system did not deploy as the SDM recorded a gradual ramp-up of the x-axis acceleration. At 100 msec of AE, the recorded delta V along the x-axis was -8.7 km/h (-5.42 mph). The maximum delta V recorded was 80 km/h (49.99 mph) at the end of the recording cycle of 300 msec.

Another non-deployment event was detected by the SDM during this crash sequence, however, this SDM is limited to recording a single non-deployment event. This event occurred after this recorded non-deployment event. The EDR output is included as *Attachment A* of this report.

Occupant Demographics

Driver Age/Sex:	16 year old/Female
Height:	157 cm (62.0")
Weight:	48 kg (106.0 lb)
Eyewear:	None reported
Seat Track Position:	Forward track position
Manual Safety Belt Use:	None
Usage Source:	Vehicle inspection, EDR output
Egress from Vehicle:	Removed by rescue personnel
Mode of Transport	
From Scene:	Transported by ambulance to a local hospital

Type of Medical Treatment: Arrived pulseless, CPR in progress, intubated on arrival, resuscitation efforts failed and the driver was pronounced deceased 46 minutes following arrival.

Driver Injuries

Injury	Injury Severity AIS 90/Update 98	Injury Source
Multiple lacerations of the right lobe of the liver with involvement of the hepatic capsule and hemoperitoneum; two liters of partially clotted blood were noted in the abdominal cavity	Severe (541826.4,1)	Steering wheel
Abrasion over the right eye (1.5x.75")	Minor (290202.1,1)	Rear view mirror
Contusion of the right upper lip (0.5x0.5")	Minor (290402.1,8)	Right upper instrument panel
Contusion of the right chin (0.5x0.5")	Minor (290402.1,1)	Right upper instrument panel
2.5 cm (1.0") laceration of the right eyelid w/surrounding contusion	Minor (297602.1,1; 297402.1,1)	Rear view mirror
Multiple contusions of the antero-lateral right thigh	Minor (890402.1,1)	Center console/transmission selector
Multiple contusions over the knees bilaterally	Minor (890402.1,3)	Knee bolster
Contusion of the anterior right thigh	Minor (890402.1,1)	Center console/transmission selector
Abrasion over the right anterior lower leg (0.25x0.25")	Minor (890202.1,1)	Knee bolster and below

Source – Autopsy Report

Driver Kinematics

The 16-year old female driver of the 2005 Cobalt was seated in a presumed upright attitude with the seat track adjusted to a forward position. She was not restrained by the manual 3-point lap and shoulder belt system. The lack of belt usage was supported by the post-crash position and condition of the safety belt webbing. The belt system was retracted and stowed against the left B-pillar and was void of historical use and crash related loading evidence. Additionally, the driver's trajectory and subsequent contact points were consistent with those of an unrestrained occupant, and the driver was found slumped against the right door, unrestrained by the first responders.

The initial impact with the small diameter tree minimally displaced the driver forward as the vehicle displaced and overrode the tree. This impact did not alter the trajectory of the vehicle. The Cobalt continued forward in a tracking attitude and struck the large diameter tree with the front right area. The resultant crush produced intrusion of the frontal components and rotated the steering column vertically upward.

The unrestrained driver initiated a forward trajectory in response to the frontal crash forces by moving on a straight-line trajectory, relatively parallel to the ground. Her knees contacted and scuffed the plastic knee bolster panel on each side of the steering column. Her right knee also contacted and scuffed the mid instrument panel at the junction of the center console. As a result of the knee bolster contacts, the driver sustained bilateral knee contusions and an abrasion over the right anterior (lower) leg.

The continued forward trajectory of the driver resulted in her abdomen loading the lower edge of the steering wheel rim. Due to the vertical displacement of the column, her abdomen loaded the edge of the wheel rim. As the rim engaged the soft, non-structural abdominal wall, the driver's chest probably wrapped onto the non-deployed air bag module and upper wheel rim. The abdominal loading resulted in multiple lacerations of the right lobe of the liver with involvement of the hepatic capsule and hemoperitoneum. The driver's loading of the steering assembly deformed the rim and fractured the mounting flange, separating the wheel and air bag module from the column. As previously noted, the separated steering wheel assembly was not with the Cobalt at the time of the SCI inspection. The driver's loading force was transmitted into the steering column. This was evidenced by 0.6 cm (0.25") of left shear capsule compression and 2 cm (0.75") on the right side.

As the Cobalt crushed to maximum engagement, the vehicle traveled past the struck tree and rotated in a clockwise direction, engaged four small diameter trees and overturned onto its right side. The unrestrained driver moved laterally across the interior of the vehicle. Her right thigh contacted the center console resulting in multiple soft tissue contusions of the antero-lateral right thigh. The driver's head probably contacted the interior mounted rear view mirror, which produced an abrasion over the right eye and a laceration of the right eyelid with a surrounding contusion.

The driver continued on a downward trajectory toward the right door as the vehicle rolled onto its right side. Her chin and upper lip contacted the upper right instrument panel, which resulted in the contusions of the lip and chin.

She came to rest slumped against the right door as the vehicle came to rest on its right side. Her legs were reportedly extended across the console in an elevated position with her feet captured between the intruding lower left instrument panel and the driver's seat cushion. In this position, the contortion of her body limited the blood flow from the liver lacerations and the driver remained in a conscious state.

Medical Treatment

Rescue personnel found the driver in this position as they arrived on-scene and were conversing with her while initial treatment was administered. As she was moved from her final rest position within the vehicle, the driver coded and became unconscious. CPR was administered as she was transported by ambulance to a local hospital, arriving approximately one hour following the time of the crash. On arrival, she was pulseless and non-intubated. The attending emergency room physician immediately intubated her and an IV was initiated. Resuscitation efforts failed to return a pulse and she was pronounced deceased 46 minutes following arrival, 1.75 hours following the crash. An autopsy was performed on the body on the day of the crash.

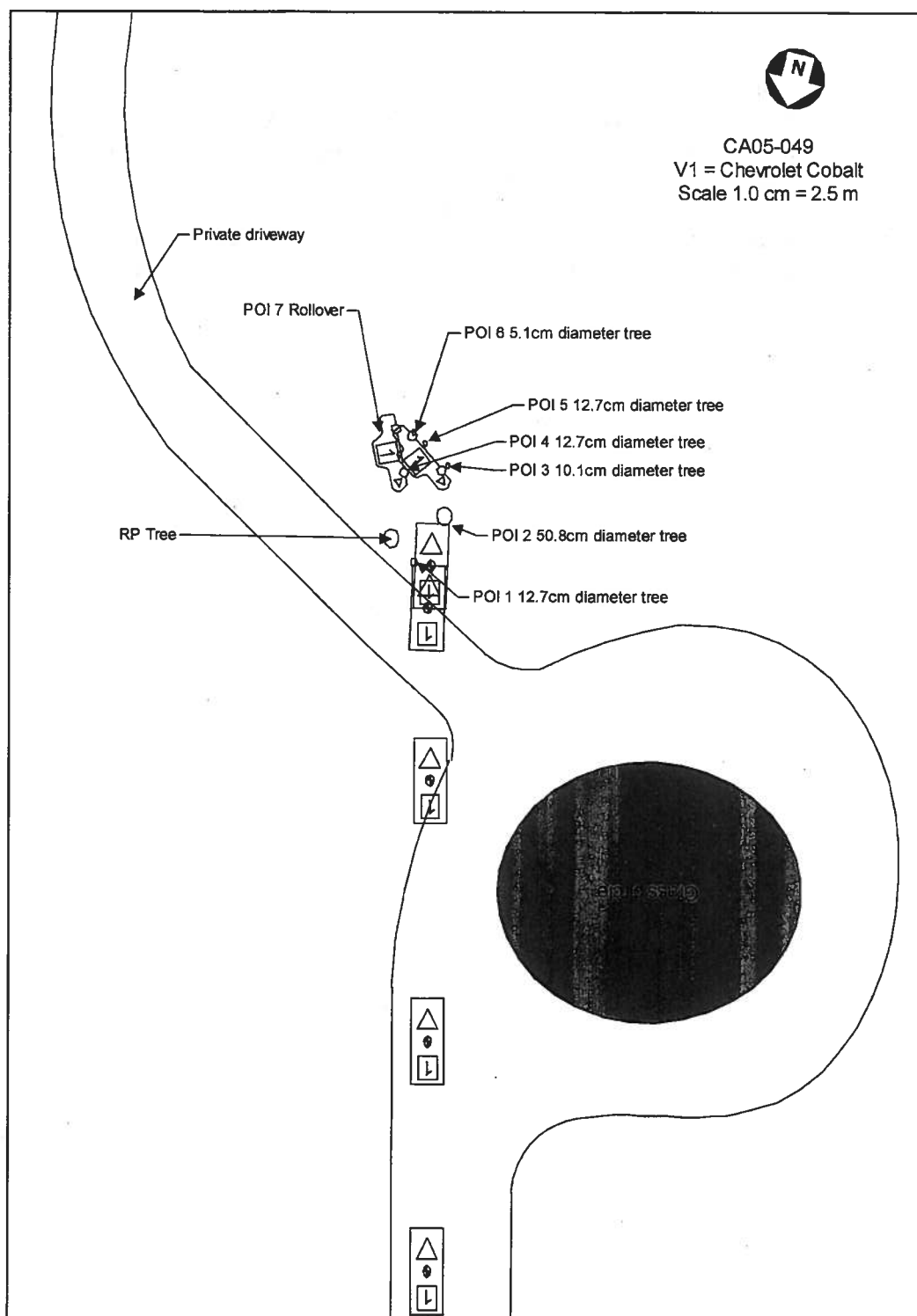


Figure 11: Scene Schematic



CDR File Information

Vehicle Identification Number	1G1AL12F857*****
Investigator	
Case Number	
Investigation Date	
Crash Date	
Filename	IYT.CDR
Saved on	Friday, August 26 2005 at 12:20:11 PM
Collected with CDR version	Crash Data Retrieval Tool 2.7114
Collecting program verification number	6612B7BD
Reported with CDR version	Crash Data Retrieval Tool 2.800
Reporting program verification number	9238B95E
Interface used to collected data	Block number: 00 Interface version: 44 Date: 07-18-05 Checksum: 2E00
Event(s) recovered	Non-Deployment

SDM Data Limitations

SDM Recorded Crash Events:

There are two types of SDM recorded crash events. The first is the Non-Deployment Event. A Non-Deployment Event is an event severe enough to "wake up" the sensing algorithm but not severe enough to deploy the air bag(s). It can contain Pre-Crash and Crash data. The SDM can store up to one Non-Deployment Event. This event can be overwritten by an event that has a greater SDM recorded vehicle forward velocity change. This event will be cleared by the SDM after the ignition has been cycled 250 times.

The second type of SDM recorded crash event is the Deployment Event. It also can contain Pre-Crash and Crash data. The SDM can store up to two different Deployment Events, if they occur within five seconds of one another. Deployment Events cannot be overwritten or cleared from the SDM. Once the SDM has deployed the air bag, the SDM must be replaced. The data in the Non-Deployment Event file will be locked after a Deployment Event, if the Non-Deployment Event occurred within 5 seconds before the Deployment Event unless a Deployment Level Event occurs within 5 seconds after the Deployment Event, then the Deployment Level Event will overwrite the Non-Deployment Event file.

SDM Data Limitations:

-SDM Recorded Vehicle Forward Velocity Change reflects the change in forward velocity that the sensing system experienced during the recorded portion of the event. SDM Recorded Vehicle Forward Velocity Change is the change in velocity during the recording time and is not the speed the vehicle was traveling before the event, and is also not the Barrier Equivalent Velocity. This data should be examined in conjunction with other available physical evidence from the vehicle and scene when assessing occupant or vehicle forward velocity change. For Deployment Events and Deployment Level Events, the SDM will record 220 milliseconds of data after deployment criteria is met and up to 70 milliseconds before deployment criteria is met. For Non-Deployment Events, the SDM will record up to the first 300 milliseconds of data after algorithm enable. The minimum SDM Recorded Vehicle Forward Velocity Change, that is needed to record a Non-Deployment Event, is 5 MPH.

-Maximum Recorded Vehicle Velocity Change is the maximum recorded velocity change in the vehicle's combined "X" and "Y" axis.

-Calculated Principal Direction of Force (PDOF) is the arctangent of the maximum observed lateral velocity change divided by the maximum observed longitudinal velocity change. PDOF is displayed where zero degrees is located at the front of the vehicle, with 90 degrees is displayed to the right side of the vehicle and so on, clockwise around the vehicle.

-Event Recording Complete will indicate if data from the recorded event has been fully written to the SDM memory or if it has been interrupted and not fully written.

-SDM Recorded Vehicle Speed accuracy can be affected if the vehicle has had the tire size or the final drive axle ratio changed from the factory build specifications.

-Brake Switch Circuit Status indicates the status of the brake switch circuit.

-Pre-Crash Electronic Data Validity Check Status indicates "Data Invalid" if the SDM receive an invalid message from the module sending the pre-crash data.

-Driver's and Passenger's Belt Switch Circuit Status indicates the status of the seat belt switch circuit. The Passenger Belt Switch Circuit Status for 2006 Chevrolet Cobalt Sport Coupe (AP) model vehicles, with the option package that includes Recaro brand seats (RPO ALV), will always report a default value of "Buckled".

-The Time Between Non-Deployment and Deployment Events is displayed in seconds. If the time between the two events is greater than 5 seconds, "N/A" is displayed in place of the time. If the value is negative, then the Deployment Event occurred first. If the value is positive, then the Non-Deployment Event occurred first.

-If power to the SDM is lost during a crash event, all or part of the crash record may not be recorded.

-The Ignition cycle counter relies upon the transitions through OFF->RUN->CRANK power-modding messages, on the GMLAN communication bus, to increment the counter. Applying and removing of battery power to the module will not increment the ignition counter.

SDM Data Source:

1G1AL12F857*****



All SDM recorded data is measured, calculated, and stored internally, except for the following:

- Vehicle Status Data (Pre-Crash) is transmitted to the SDM, by various vehicle control modules, via the vehicle's communication network.
- The Belt Switch Circuit is wired directly to the SDM.

**System Status At AE**

Vehicle Identification Number	**1AL12F*5*****
Low Tire Pressure Warning Lamp (If Equipped)	OFF
Vehicle Power Mode Status	Accessory
Remote Start Status (If Equipped)	Inactive
Run/Crank Ignition Switch Logic Level	Active
Brake System Warning Lamp (If Equipped)	OFF

System Status At 1 second

Transmission Range (If Equipped)	Second Gear
Transmission Selector Position (If Equipped)	Fourth Gear
Traction Control System Active (If Equipped)	Yes
Service Engine Soon (Non-Emission Related) Lamp	OFF
Service Vehicle Soon Lamp	OFF
Outside Air Temperature (degrees F) (If Equipped)	72.5
Left Front Door Status (If Equipped)	Closed
Right Front Door Status (If Equipped)	Closed
Left Rear Door Status (If Equipped)	Unused
Right Rear Door Status (If Equipped)	Unused
Rear Door(s) Status (If Equipped)	Closed

Pre-crash data

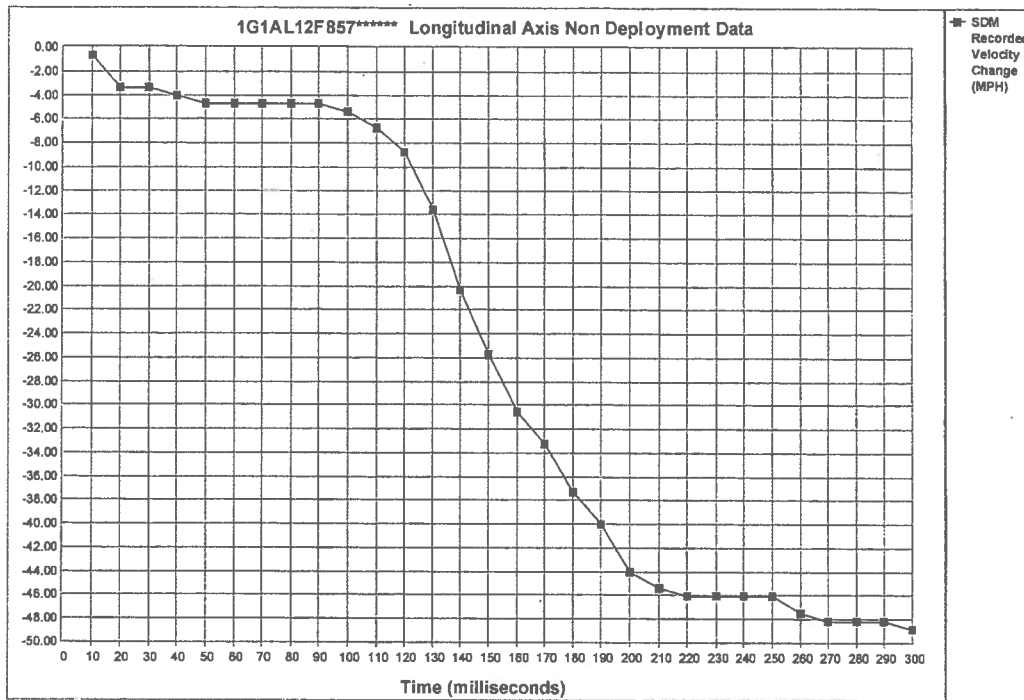
Parameter	-2 sec	-1 sec
Reduced Engine Power Mode	OFF	OFF
Cruise Control Active (If Equipped)	No	No
Cruise Control Resume Switch Active (If Equipped)	No	No
Cruise Control Set Switch Active (If Equipped)	No	No

Pre-crash data

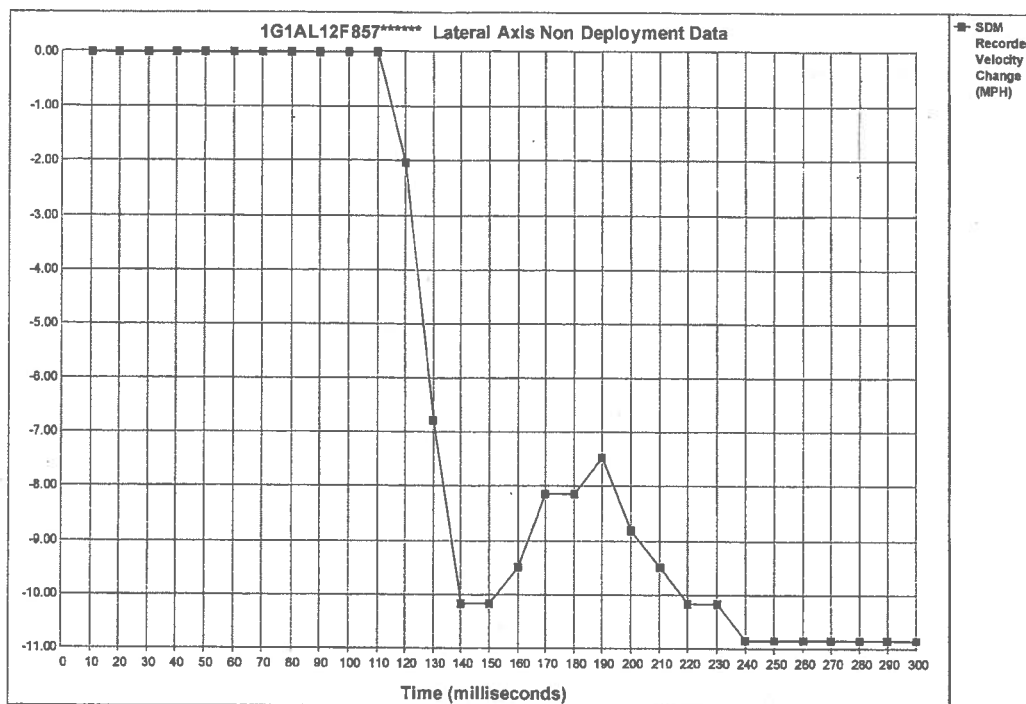
Parameter	-5 sec	-4 sec	-3 sec	-2 sec	-1 sec
Vehicle Speed (MPH)	53	57	62	65	69
Engine Speed (RPM)	4736	4992	5312	5568	6016
Percent Throttle	100	100	100	100	100
Accelerator Pedal Position (percent)	96	96	96	96	96
Antilock Brake System Active (If Equipped)	No	No	No	No	No
Lateral Acceleration (feet/s ²) (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Yaw Rate (degrees per second) (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid
Steering Wheel Angle (degrees) (If Equipped)	0	0	0	0	0
Vehicle Dynamics Control Active (If Equipped)	Invalid	Invalid	Invalid	Invalid	Invalid

**System Status At Non-Deployment**

Ignition Cycles At Investigation	465
SIR Warning Lamp Status	OFF
SIR Warning Lamp ON/OFF Time (seconds)	563220
Number of Ignition Cycles SIR Warning Lamp was ON/OFF Continuously	464
Ignition Cycles At Event	465
Ignition Cycles Since DTCs Were Last Cleared	158
Driver's Belt Switch Circuit Status	UNBUCKLED
Diagnostic Trouble Codes at Event, fault number: 1	N/A
Diagnostic Trouble Codes at Event, fault number: 2	N/A
Diagnostic Trouble Codes at Event, fault number: 3	N/A
Diagnostic Trouble Codes at Event, fault number: 4	N/A
Diagnostic Trouble Codes at Event, fault number: 5	N/A
Diagnostic Trouble Codes at Event, fault number: 6	N/A
Maximum SDM Recorded Velocity Change (MPH)	49.99
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	300
Driver First Stage Deployment Loop Commanded	No
Driver Second Stage Deployment Loop Commanded	No
Driver Side Deployment Loop Commanded	No
Driver Pretensioner Deployment Loop Commanded	No
Driver (Initiator 1) Roof Rail/Head Curtain Loop Commanded	No
Driver (Initiator 2) Roof Rail/Head Curtain Loop Commanded	No
Driver Knee Deployment Loop Commanded	No
Passenger First Stage Deployment Loop Commanded	No
Passenger Second Stage Deployment Loop Commanded	No
Passenger Side Deployment Loop Commanded	No
Passenger Pretensioner Deployment Loop Commanded	No
Passenger (Initiator 1) Roof Rail/Head Curtain Loop Commanded	No
Passenger (Initiator 2) Roof Rail/Head Curtain Loop Commanded	No
Passenger Knee Deployment Loop Commanded	No
Second Row Left Side Deployment Loop Commanded	No
Second Row Left Pretensioner Deployment Loop Commanded	No
Third Row Left Roof Rail/Head Curtain Loop Commanded	No
Second Row Right Side Deployment Loop Commanded	No
Second Row Right Pretensioner Deployment Loop Commanded	No
Third Row Right Roof Rail/Head Curtain Loop Commanded	No
Second Row Center Pretensioner Deployment Loop Commanded	No
Multiple Event Counter	1
An Event(s) Preceded the Recorded Event(s)	No
An Event(s) was in Between the Recorded Event(s)	No
An Event(s) Followed the Recorded Event(s)	Yes
The Event(s) Not Recorded was a Deployment Event(s)	No
The Event(s) Not Recorded was a Non-Deployment Event(s)	Yes
Crash Record Locked	No
Vehicle Event Data (Pre-Crash) Associated With This Event	Yes
Deployment Event Recorded in the Non-Deployment Record	No
Event Recording Complete	Yes
Estimated Principal Direction of Force (PDOF) degrees	15



Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Longitudinal Axis Recorded Velocity	-0.68	-3.39	-3.39	-4.07	-4.74	-4.74	-4.74	-4.74	-4.74	-5.42	-6.78	-8.81	-13.56	-20.34	-25.76
Time (milliseconds)	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
Longitudinal Axis Recorded Velocity	-30.50	-33.21	-37.28	-39.99	-44.06	-45.42	-46.09	-46.09	-46.09	-46.09	-47.45	-48.13	-48.13	-48.13	-48.80



Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Lateral Axis Recorded Velocity Change (MPH)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-2.03	-7.46	-10.17	-10.17
Time (milliseconds)	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
Lateral Axis Recorded Velocity Change (MPH)	-9.49	-8.13	-8.13	-7.46	-8.81	-9.49	-10.17	-10.17	-10.85	-10.85	-10.85	-10.85	-10.85	-10.85	-10.85



Hexadecimal Data

This page displays all the data retrieved from the air bag module.
It contains data that is not converted by this program.

```

$01 68 00 00 00 00 00 00
$02 00 00 00 00 00 00 00
$03 02 00 00 00 00 00 00
$04 02 00 00 00 00 00 00
$05 00 00 00 00 00 00 00
$06 00 4A 00 00 19 94 32
$07 14 C9 00 00 00 00 00
$08 00 FF 00 00 00 00 00
$09 00 85 85 00 00 00 00
$0A 00 00 00 00 00 00 00
$0B 00 00 01 0F 01 00 00
$0C 00 00 00 00 00 00 00
$0D 00 00 40 00 00 00 00
$0E 40 00 00 00 00 00 00
$0F BA 00 00 00 00 00 00
$10 47 31 41 4C 31 32 46
$11 38 35 37 35 39 35 34
$12 31 36 00 00 00 00 00
$13 00 00 00 00 00 00 00
$14 00 00 00 00 00 00 00
$15 00 00 00 00 00 00 00
$16 03 06 0C 16 34 00 00
$17 07 07 02 02 00 00 00
$18 02 02 00 00 00 00 00
$19 07 07 00 00 00 00 00
$1B 3F 30 00 66 00 78 00
$1C 3F 00 00 02 00 18 00
$1D 00 00 00 00 00 00 00
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$20 40 00 00 00 00 00 00
$21 FF 01 00 00 70 00 00
$22 00 92 00 00 00 00 00
$24 00 00 00 00 00 00 00
$25 00 00 00 00 00 00 00
$26 00 00 00 00 00 00 00
$27 FF 00 FF 00 00 00 00
$2A 00 00 00 00 00 00 00
$2B 00 00 00 00 00 00 00
$2D 00 00 00 00 00 00 00
$2E 80 00 1E 00 00 00 00
$2F 00 9E 01 D1 00 00 00
$30 9D 00 00 00 00 00 00
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$32 00 00 00 00 00 00 00
$33 FE FE FE FE FE 00 00
$34 5E 57 53 4E 4A 00 00
$35 6F 69 63 5C 56 00 00
$36 00 00 00 00 00 00 00
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$3A 00 00 00 00 00 80 00
$3B 03 06 0C 00 00 00 00
$3C 00 00 00 00 00 00 C0
$3D 31 41 4C 31 32 46 00
$3E 35 59 54 16 00 00 00
$3F 29 00 50 00 00 00 00
$40 20 A5 00 00 00 00 00
$41 00 00 00 00 00 00 00
$42 00 DC 02 01 D0 00 00

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1G1AL12F857*****

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\$43 9E 01 D1 00 00 00 00
 \$44 00 00 00 00 00 00 00
 \$45 00 00 00 00 00 00 00
 \$46 00 00 00 00 00 00 00
 \$47 00 FF 00 FB 00 FB 00
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 \$4B F6 EC F1 E2 F1 DA 00
 \$4C F2 D3 F4 CF F4 C9 00
 \$4D F5 C5 F3 BF F2 BD 00
 \$4E F1 BC F1 BC F0 BC 00
 \$4F F0 BC F0 BA F0 B9 00
 \$50 F0 B9 F0 B9 F0 B8 00
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 \$77 FF FF FF FF FF FF 00
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 \$79 81 FF FF FF 00 00 00
 \$7A 82 FF FF 00 00 00 00
 \$7B FF FF FF FF FF FF 00

\$01 41 55 01 02 03 04 52 53 41 32 03 09 01 AA AA 01
 \$02 01 02 03 04
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 \$04 01 02 03 04
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 \$10 01 02 03 04
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 \$22 94 32
 \$23 31 41 FA FA FA FA 32
 \$24 31 41 FA FA FA FA 32
 \$25 32 41 FA FA FA FA 32
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 \$40 00 00
 \$41 3F 00 00 02 00 18
 \$42 10 C4
 \$43 00 00 8C 80



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$44 C6 00 00 FC C0 C0
$45 07 01 07 01 05 01
$46 FF 1A 1A 64 64
$47 0A 64 02 04 04 05 0A 06 04 0A 00 00 FA 00 00 FF 04 64
$48 18 08 08
$B0 58
$B1 FD FE 00
$B2 FF FF FF FF FF
$B4 41 53 39 34 33 32 32 33 32 32 33 51 20 20 20 20
$B7 50 AA 01 0F 01
$B8 54 41 68 04 02
$C1 30 46 30 31
$CA 30 46 30 31
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$CC 00 E8 B0 18
$D1 00 00
$DB 00 00
$DC 00 00
    
```

Create Dt	Status Cd	Cmpl Type Cd	Accident Yn	Odi Id
24-May-2005	QAN	EVOQ	N	10122034
29-Aug-2005	QAN	EVOQ	N	10134639
08-Mar-2006	QAN	EVOQ	N	10152196
08-Feb-2006	QAN	IVOQ	N	10149805

07-Jun-2006	QAN	IVOQ	N	10159245
08-Feb-2006	QAN	IVOQ	N	10149805
07-Jun-2006	QAN	IVOQ	N	10159245

01-Mar-2006	QAN	IVOQ	N	10151546
03-Oct-2006	QAN	IVOQ	N	10169851
23-Aug-2006	QAN	EVOQ	N	10166296
25-Aug-2006	QAN	EVOQ	N	10166550
16-Nov-2006	QAN	IVOQ	N	10173621

20-Jan-2007	QAN	IVOQ	N	10179260
23-Jan-2007	QAN	EVOQ	N	10179494
15-Feb-2007	QAN	IVOQ	N	10182714
02-May-2007	QAN	EVOQ	N	10190040

Descr	Incident Dt
DT: CONSUMER BOUGHT A 2005 CHEVROLET, COBALT; HAD AN ACCIDENT WHICH TOTALED THE CAR OUT. THE AIR BAGS DID NOT DEPLOY. *TT	10-May-2005
DT: 2005 CHEVROLET COBALT. THE CONSUMER STATED WHILE SLIDING THROUGH A RED LIGHT ANOTHER VEHICLE HIT CONSUMER'S ON THE DRIVER'S SIDE REAR. THE VEHICLE THEN HIT A POLE, SPUN AROUND, AND HIT ANOTHER POLE. THE VEHICLE ALMOST FLIPPED OVER. IT WENT UP ON TWO WHEELS AND CAME BACK DOWN. THERE WAS FRONT AND REAR END DAMAGE. THE VEHICLE WAS TOTALED. UPON IMPACT, THE AIRBAGS DID NOT DEPLOY, AND THE PASSENGER'S SEAT BELT CAME OFF. THE VEHICLE HAS NOT BEEN INSPECTED YET TO DETERMINE WHY THIS HAPPENED ON AUGUST 27, 2005. A POLICE REPORT WAS TAKEN. THE PASSENGER SUSTAINED INJURIES, HIT CHEST AND ARM ON THE DASH,BOARD AND SHE WAS BRUISED. *AK	27-Aug-2005
DT*: THE CONTACT STATED WHILE ATTEMPTING TO APPLY BRAKE PRESSURE AT 40 MPH THE VEHICLE HIT ANOTHER VEHICLE FROM BEHIND AND THE AIRBAGS DID NOT DEPLOY. A POLICE REPORT WAS FILED AT THE SCENE AND THERE WERE NO INJURIES. THE VEHICLE SUSTAINED FRONT END DAMAGE. IT WAS TOWED TO THE DEALERSHIP AND THE FRONT END WAS REPLACED. THE MANUFACTURER WAS CONTACTED. *AK	06-Jan-2006
THE 2005 CHEVY COBALT WE PURCHASED FOR MY DAUGHTER HAS A VIOLENT VIBRATION THAT IS INTERMITTENT. THE VIBRATION USUALLY HAPPENS ON LONG TRIPS, WHEN THE CAR IS AT HIGHWAY SPEEDS OF OVER 65 MPH FOR 45 MINUTES OR LONGER WITH THE CRUISE CONTROL ON. THEN WHEN COMING UP ON SLOWER TRAFFIC, YOU TOUCH THE BRAKES TO DISENGAGE THE CRUISE CONTROL, A VIOLENT VIBRATION PROCEEDS. IF YOU APPLY MORE BRAKES THE VIBRATION GETS WORSE. THIS VIBRATION REQUIRES THE DRIVER TO MAINTAIN BOTH HANDS ON THE WHEEL TO CONTROL THE CAR. THIS VIBRATION WILL LAST FROM A FEW MINUTES TO 15 MILES. USUALLY WHEN THE VIBRATION STOPS THE CRUISE CONTROL WILL NOT WORK FOR A MINUTE OF 30 MINUTES AND UP TO 3 DAYS. WE HAVE TAKE THE CAR TO THE DEALERSHIPS 5 TIMES. 2 DEALERSHIPS IN OR AROUND TAMPA FLORIDA AND THE DEALER WE PURCHASED IT FROM IN JONESBORO GEORGIA. EACH TIME THEY DIRVE THE CAR A FEW MILES AT HIGHWAY SPEEDS OVER 60 MPH AND DECLARE NOTHING IS WRONG. AS WE STATED ABOVE AND TO THE DEALERSHIPS, IT TAKES A MINIMUM OF 45 MINUTES OR LONGER AT SPEEDS OVER 65 MPH FOR THIS VIBRATION TO HAPPEN, AND SOMETIMES IT WILL NOT HAPPEN. WE HAVE STARTED THE LEMON LAW PROCESS IN GEORGIA AND HAVE ASKED FOR A REPLACEMENT CAR OR PURCHASE BACK BY GM. WE ARE AWAITING THERE ACTIONS. SINCE THE MANUFACTURER'S LAST ATTEMPT TO FIX THE CAR, IN WHICH MY DAUGHTER DROVE 2 HOURS AND THE VIBRATION STARTED AS THEY WERE EXISTING THE EXPRESS WAY TO THE DEALERSHIP, SHE OVER HEARD THE SERVICE MANAGER ACKNOWLEDGED "THE PROBLEM IS IN THE BRAKES' THEY CONTACTED THE GM REP IN ATALANTA AREA, AND DECIDED TO DO NOTHING TO FIXE THE CAR. NOW YESTERDAY, WHEN MY DAUGHTER WAS ABOUT TO SLOW DOWN ON THE CONNECTOR IN ATLANTA, DUE TO SLOWER TRAFFIC, THE BRAKE PEDAL WENT SOFT AND THEN "HARD AS A BRICK" CAUSING THE CAR NOT TO STOP AND HITTING THE PICKUP TRUCK IN FRONT OF HER. THE AIR BAGS DID NOT DEPLOY AND SHE NOW HAS A "MILD CONCUSSION". SHE HAD TO MISS WORK YESTERDAY AND TODAY. WHAT CAN BE DONE TO FORCE GM TO FIX THIS BRAKE PROBLEM OR REPLACE THE CAR?*JB	07-Feb-2006

<p>1) MONTHS PRIOR TO THE ACCIDENT AT HIGH WAY SPEED (65 TO 75 MPH) AFTER SEVERAL HOUR (FROM 1 TO 4) WITH THE CRUISE CONTROL ENGAGED, WHEN DISENGAGING THE CRUISE CONTROL, THE CAR WOULD VIBRATE VIOLENTLY. GM CLAIMS THEY CAN NOT DUPLICATE THE PROBLEM.</p> <p>2) BRAKES FAILED - APPLIED BRAKES IN TRAFFIC, PEDAL WAS SOFT AND THEN WENT HARD LIKE THE POWER BRAKES WAS NOT WORKING, BUT THE CAR DID NOT SLOW DOWN, CAUSING THE IMPACT IN THE REAR OF A PICK-UP TRUCK.</p> <p>3) ACCORDING TO THE AIR BAG REPORT THE CAR WAS TRAVELING OVER 30 MPH, BUT THE AIR BAGS DID NOT DEPLOY ON THE FRONTAL CRASH. *JB</p>	07-Feb-2006
<p>THE 2005 CHEVY COBALT WE PURCHASED FOR MY DAUGHTER HAS A VIOLENT VIBRATION THAT IS INTERMITTENT. THE VIBRATION USUALLY HAPPENS ON LONG TRIPS, WHEN THE CAR IS AT HIGHWAY SPEEDS OF OVER 65 MPH FOR 45 MINUTES OR LONGER WITH THE CRUISE CONTROL ON. THEN WHEN COMING UP ON SLOWER TRAFFIC, YOU TOUCH THE BRAKES TO DISENGAGE THE CRUISE CONTROL, A VIOLENT VIBRATION PROCEEDS. IF YOU APPLY MORE BRAKES THE VIBRATION GETS WORSE. THIS VIBRATION REQUIRES THE DRIVER TO MAINTAIN BOTH HANDS ON THE WHEEL TO CONTROL THE CAR. THIS VIBRATION WILL LAST FROM A FEW MINUTES TO 15 MILES. USUALLY WHEN THE VIBRATION STOPS THE CRUISE CONTROL WILL NOT WORK FOR A MINUTE OF 30 MINUTES AND UP TO 3 DAYS. WE HAVE TAKE THE CAR TO THE DEALERSHIPS 5 TIMES. 2 DEALERSHIPS IN OR AROUND TAMPA FLORIDA AND THE DEALER WE PURCHASED IT FROM IN JONESBORO GEORGIA. EACH TIME THEY DIRVE THE CAR A FEW MILES AT HIGHWAY SPEEDS OVER 60 MPH AND DECLARE NOTHING IS WRONG. AS WE STATED ABOVE AND TO THE DEALERSHIPS, IT TAKES A MINIMUM OF 45 MINUTES OR LONGER AT SPEEDS OVER 65 MPH FOR THIS VIBRATION TO HAPPEN, AND SOMETIMES IT WILL NOT HAPPEN. WE HAVE STARTED THE LEMON LAW PROCESS IN GEORGIA AND HAVE ASKED FOR A REPLACEMENT CAR OR PURCHASE BACK BY GM. WE ARE AWAITING THERE ACTIONS. SINCE THE MANUFACTURER'S LAST ATTEMPT TO FIX THE CAR, IN WHICH MY DAUGHTER DROVE 2 HOURS AND THE VIBRATION STARTED AS THEY WERE EXISTING THE EXPRESS WAY TO THE DEALERSHIP, SHE OVER HEARD THE SERVICE MANAGER ACKNOWLEDGED "THE PROBLEM IS IN THE BRAKES' THEY CONTACTED THE GM REP IN ATALANTA AREA, AND DECIDED TO DO NOTHING TO FIXE THE CAR. NOW YESTERDAY, WHEN MY DAUGHTER WAS ABOUT TO SLOW DOWN ON THE CONNECTOR IN ATLANTA, DUE TO SLOWER TRAFFIC, THE BRAKE PEDAL WENT SOFT AND THEN "HARD AS A BRICK" CAUSING THE CAR NOT TO STOP AND HITTING THE PICKUP TRUCK IN FRONT OF HER. THE AIR BAGS DID NOT DEPLOY AND SHE NOW HAS A "MILD CONCUSSION". SHE HAD TO MISS WORK YESTERDAY AND TODAY. WHAT CAN BE DONE TO FORCE GM TO FIX THIS BRAKE PROBLEM OR REPLACE THE CAR?*JB</p>	07-Feb-2006
<p>1) MONTHS PRIOR TO THE ACCIDENT AT HIGH WAY SPEED (65 TO 75 MPH) AFTER SEVERAL HOUR (FROM 1 TO 4) WITH THE CRUISE CONTROL ENGAGED, WHEN DISENGAGING THE CRUISE CONTROL, THE CAR WOULD VIBRATE VIOLENTLY. GM CLAIMS THEY CAN NOT DUPLICATE THE PROBLEM.</p> <p>2) BRAKES FAILED - APPLIED BRAKES IN TRAFFIC, PEDAL WAS SOFT AND THEN WENT HARD LIKE THE POWER BRAKES WAS NOT WORKING, BUT THE CAR DID NOT SLOW DOWN, CAUSING THE IMPACT IN THE REAR OF A PICK-UP TRUCK.</p> <p>3) ACCORDING TO THE AIR BAG REPORT THE CAR WAS TRAVELING OVER 30 MPH, BUT THE AIR BAGS DID NOT DEPLOY ON THE FRONTAL CRASH. *JB</p>	07-Feb-2006

ON FEB. 10, 2006 MY LITTLE BROTHER WAS ON HIS WAY HOME IN MY 2005 COBALT IT WAS RAINING. HE WENT AROUND A CURVE AND LOST CONTROL OF THE VEHICLE. HE HIT A TOTAL OF 3 TREES THE CAR WAS TOTAL. THE AIR BAGS DIDN'T NOT DEPLOY AN THE SEAT BELT DIDN'T CATCH. BC OF THIS MY LITTLE BROTHER LOST HIS LIFE. HE WAS 5'11 AN WEIGHED ABOUT 350 LBS AN CAME UP OUT OF HIS SEAT AND HIT THE TOP OF THE CAR WHERE THE METAL MEETS THE WINDSHIELD. NOTHING HAS BEEN DONE. MY FAMILY CALLED CHEVY TO REPORT IT THEY SAID THEY WOULD CALL US BACK IN 24 TO 48 HRS THAT WAS ALMOST 3 WKS AGO AN HAVEN'T HEARD ANYTHING. *NM	10-Feb-2006
I WAS DRIVING MY 2006 CHEVY COBALT WHEN I WAS TAKING A FRIEND TO THE AIRPORT. I WAS ON I-495 N IN THE LANE LEADING TO THE EXIT THAT TAKES YOU TO THE AIRPORT TOLL ROAD. I APPLIED MY BRAKES AND THE CAR DID NOT SLOW DOWN. HOPING TO COAST DOWN THE EXIT AND PULL OFF TO THE SIDE OF THE ROAD, I TURNED THE STEERING WHEEL TO VEER THE CAR LEFT. THE CAR KEPT GOING STRAIGHT. I KEPT HITTING THE BRAKES AND TURNED THE STEERING WHEEL TO THE LEFT, BUT THE CAR DID NOT STOP, NOR DID IT TURN. WE CRASHED INTO THE GUARDRAIL AT ABOUT 50 MPH. THE AIRBAGS DID NOT DEPLOY. TURNS OUT THE CAR SHUT OFF WHILE I WAS DRIVING IT. THIS WAS THE SECOND TIME THIS HAD OCCURRED. IT HAPPENED BACK IN MAY 2006 AND I TOOK IT IN TO THE DEALERSHIP. THEY KEPT IT FOR A COUPLE OF DAYS AND SAID IT WAS FINE. APPARENTLY NOT. *JB	01-May-2006
DT*: THE CONTACT STATED WHILE DRIVING 55 MPH ON THE HIGHWAY WITH THE CRUISE CONTROL ENGAGED, THE BRAKE PEDAL WAS DEPRESSED AND THE VEHICLE LURCHED FORWARD WITHOUT WARNING. MULTIPLE ATTEMPTS WERE MADE TO DISENGAGE THE CRUISE CONTROL BY CONSTANTLY APPLYING BRAKE PRESSURE, BUT THE VEHICLE CONTINUED TO ACCELERATE. THE VEHICLE SUDDENLY CAREENED THROUGH TWO LANES OF TRAFFIC, STRUCK A GUARDRAIL, AND ROLLED OVER INTO AN EMBANKMENT WHERE IT FINALLY CAME TO A STOP. THE CONTACT WAS WEARING A SEAT BELT, BUT MINOR INJURIES WERE SUSTAINED. DUE TO THE EXTENSIVE BODY DAMAGE, THE VEHICLE WAS DEEMED TOTALED. THE POLICE WERE ALERTED AND A REPORT WAS TAKEN. THE MANUFACTURER WAS ALSO ALERTED. UPDATED 9/20/2006 - THE AIR BAGS DID NOT DEPLOY. *NM	07-Aug-2006
DT*: THE CONTACT STATED WHILE DRIVING 50 MPH ON A CLEAR DRY HIGHWAY IN HEAVY TRAFFIC, ALL TRAFFIC STOPPED ABRUPTLY, CAUSING THE FRONT END TO IMPACT THE RIGHT REAR OF THE VEHICLE IN FRONT. THEN THE VEHICLE SPUN OFF THE ROAD TO THE LEFT IMPACTING HEAD ON WITH THE GUARDRAIL. THE FRONTAL AIR BAGS FAILED TO DEPLOY ON EITHER IMPACT. A POLICE REPORT WAS TAKEN. THE RENTAL CAR COMPANY WAS NOTIFIED AND THE CONTACT WAS TAKEN TO THE HOSPITAL.	24-Aug-2006
NOTICE OF RECALL REPAIRS MADE BY DEALERSHIP. CRASH INTO TREE, APPROX. SPEED 60 MPH. THREE PASSENGERS, NOT WEARING SEAT BELTS, EXTREME FRONT END DAMAGE. AIR BAGS DID NOT DEPLOY. DRIVER SERIOUSLY INJURED. FRONT PASSENGER KILLED. REAR PASSENGER KILLED. INVESTIGATION PENDING. ... *NM	24-Oct-2006

2006 CHEVROLET COBALT SEDAN HAD 2 INCIDENTS OF GOING OUT OF CONTROL 9 DAYS APART. FIRST TIME WAS WHEN CAR WAS PUT IN REVERSE AND SLIGHT TAP OF GAS PEDAL RESULTED IN CAR RAPIDLY REVERSING UNTIL HIT MUD AREA ON GRASS AND LIGHT POLE. SECOND INCIDENT WAS WHEN CAR WAS IN FORWARD AND STOPPED TO OPEN TRUNK. CAR LUNGED FORWARD WITH SUCH FORCE THAT IT WENT THROUGH GARAGE WALL. AIR BAGS DID NOT DEPLOY EITHER TIME. CAR TOWED TO DEALERSHIP. PARTS ORDERED TO REPLACE DAMAGE BUT NOT YET CHECKED OUT MECHANICALLY TO SEE WHAT WENT WRONG WITH FORWARD & REVERSE INCIDENTS AND WHY AIR BAGS DID NOT DEPLOY. *NM	06-Jan-2007
TL*- WHILE DRIVING ON A RAINY DAY ON A MAIN ROAD, THE CONTACT LOST CONTROL OF A 2006 CHEVROLET COBALT AT A SPEED OF 40 MPH, CAUSING THE VEHICLE TO CRASH INTO A HILLSIDE THAT HAD A BIG ROCK STICKING OUT. THE ENTIRE FRONT OF THE VEHICLE SUSTAINED DAMAGE, THE RADIATOR, TRANSMISSION AND ENGINE WERE CRUSHED. THE CONTACT STATED THAT THE FRONTAL AIR BAGS NEVER DEPLOYED. PRIOR TO THE INCIDENT THERE WAS NO WARNING THAT THE AIR BAGS WEREN'T WORKING. *AK THE CONSUMER HIT A DITCH BEFORE HITTING THE HILLSIDE. THE SEAT BELT DIDN'T RESTRAIN THE CONSUMER. UPDATED 02/27/07. *JB	15-Jan-2007
AFTER DRIVING FOR 30 MINUTES AT A SPEED OF 55-60 MPH ON THE INTERSTATE, I WAS ON THE OFF RAMP MERGING FROM ONE INTERSTATE TO ANOTHER, WHEN THE CARS AHEAD OF ME STARTING SLOWING DOWN. I APPLIED A SUDDEN PRESSURE TO THE BRAKES TO SLOW DOWN ALSO; HOWEVER, THE BRAKE PEDAL WENT SOFT AND THEN IT SEEMED LIKE THE BRAKES LOCKED, BUT DID NOT SLOW DOWN. THE CAR MADE A SUDDEN JOLT TO THE RIGHT BRINGING ME INTO THE ON COMING TRAFFIC IN THE NEXT LANE. THIS RESULTED IN A COLLISION WITH ANOTHER CAR. RESULTING IN A TOTAL LOSS TO THE COBALT. THE AIR BAGS DID NOT DEPLOY EVENTHOUGH THE FRONT END OF THE CAR WAS DESTROYED. *NM	12-Feb-2007
2006 CHEVROLET COLBALT. VEHICLE WAS INVOLVED IN COLLISION HITTING ANOTHER VEHICLE ON THE RIGHT SIDE CAUSING DAMAGES TO THE FRONT END. CONSUMER STATES THAT THE AIR BAGS DID NOT DEPLOY. *MC UPDATE 4/25/07*TR	16-Apr-2007

Recvd Dt	Fire Yn	Num Injured	Num Deaths	Num Occurrences	Police Rpt Yn
24-Jun-2005	N	1	-	1	Y
29-Aug-2005	N	1	-	1	Y
08-Mar-2006	N	-	-	1	Y
08-Feb-2006	N	1	0	6	Y

07-Jun-2006	N	1	0	1	Y
08-Feb-2006	N	1	0	6	Y
07-Jun-2006	N	1	0	1	Y

01-Mar-2006	N	4	1	2	Y
03-Oct-2006	N	2	0	2	Y
23-Aug-2006	N	1	-	1	Y
25-Aug-2006	N	1	0	1	Y
16-Nov-2006	N	1	2	1	Y

20-Jan-2007	N	0	0	2	N
23-Jan-2007	N	1	0	1	Y
15-Feb-2007	N	0	0	1	Y
25-Apr-2007	N	1	0	1	Y

Y	Y	MR.	[REDACTED]		-	-
Y	Y	MR.	[REDACTED]		B	-
Y	Y	MR.	[REDACTED]		-	-

Y	Y					
Y	Y					
Y	Y	-			-	-
N	Y	-				
Y	Y	MR.			M	-

Y	Y	MR.	[REDACTED]		-	-
Y	Y					
Y	Y	-	[REDACTED]		[REDACTED]	-
Y	Y	-				

[illegible]

Phone Work	Email	Make	Model	Model Yr
[REDACTED]	-	CHEVROLET	COBALT	2005
	-	CHEVROLET	COBALT	2005
	-	CHEVROLET	COBALT	2006
[REDACTED]		CHEVROLET	COBALT	2005

[REDACTED]		CHEVROLET	COBALT	2005
[REDACTED]		CHEVROLET	COBALT	2005
[REDACTED]		CHEVROLET	COBALT	2005

		CHEVROLET	COBALT	2005
		CHEVROLET	COBALT	2006
		CHEVROLET	COBALT	2006
		CHEVROLET	COBALT	2005
		CHEVROLET	COBALT	2005

[REDACTED]		CHEVROLET	COBALT	2006
		CHEVROLET	COBALT	2006
[REDACTED]		CHEVROLET	COBALT	2005
		CHEVROLET	COBALT	2006

Mfr. Name	Vin	Curr. Mileage	Failure Mileage	Orig. Owner_Yn
GENERAL MOTORS CORP.		22000	2100	Y
GENERAL MOTORS CORP.		10000	10000	Y
GENERAL MOTORS CORP.		3150	2567	Y
GENERAL MOTORS CORP.		-	-	Y

GENERAL MOTORS CORP.		13000	10819	Y
GENERAL MOTORS CORP.		-	-	Y
GENERAL MOTORS CORP.		13000	10819	Y

GENERAL MOTORS CORP.	[REDACTED]	35000	-	Y
GENERAL MOTORS CORP.	[REDACTED]	4562	4520	Y
GENERAL MOTORS CORP.	[REDACTED]	19000	19000	Y
GENERAL MOTORS CORP.	-	45000	45000	N
GENERAL MOTORS CORP.	[REDACTED]	35000	35000	Y

GENERAL MOTORS CORP.	-	11000	-	Y
GENERAL MOTORS CORP.	[REDACTED]	23000	23000	Y
GENERAL MOTORS CORP.	[REDACTED]	49900	49900	Y
GENERAL MOTORS CORP.	[REDACTED]	3620	3620	N

Confidential Yn
N
Y
Y
N

N
N
N

Y
Y
N
Y
N

N
Y
N
Y

Create Dt	Status Cd	Cmpl Type Cd	Accident Yn	Odi Id
08-Jul-2003	QAN	EVOQ	N	10026770
22-Apr-2004	QAR	CAG	-	10070881
30-Sep-2003	QAR	EVOQ	N	10041950
20-Nov-2003	QAN	IVOQ	N	10047270
05-Jan-2004	QAR	IVOQ	N	10052398
31-Dec-2003	QAN	EVOQ	N	10052170
23-Mar-2004	QAR	EVOQ	N	10064712
27-May-2004	QAN	EVOQ	N	10074368
08-Jul-2004	QAN	LETR	N	10079846

03-Feb-2005	QAN	LETR	N	10108852
27-Jan-2005	QAN	EVOQ	N	10109004
15-Jul-2005	QAN	EVOQ	N	10128913
13-Jul-2005	QAR	IVOQ	-	10128645
05-Aug-2005	QAN	IVOQ	N	10131710
13-Sep-2005	QAN	IVOQ	N	10136367

05-Oct-2005	QAN	IVOQ	N	10138724
06-Nov-2005	QAN	IVOQ	N	10141872
29-Jun-2006	VAL	EVOQ	N	10161049
29-Jun-2006	QAN	IVOQ	N	10161047

21-Nov-2006	QAN	IVOQ	N	10173931
08-Jan-2007	QAN	IVOQ	N	10178130
02-Mar-2007	QAN	EVOQ	N	10183991
26-Mar-2007	QAN	IVOQ	N	10186241

Descr	Incident Dt
THE VEHICLE WAS INVOLVED IN A COLLISION AND THE AIRBAGS DID NOT DEPLOY. THE VEHICLE WAS TOTALED. DEALER NOTIFIED. *AK *TS *JB	02-Jul-2003
I PURCHASED THE CAR ON 9/9/03, I WAS INVOLVED IN AN ACCIDENT ON 9/11/03 I REAR ENDED A PICKUP TRUCK. THE DAMAGES TO MY CAR TOTALED \$8400.00 AND IT WAS A DEAD-CENTER HIT TO THE FRONT OF MY CAR BENDING BOTH OF THE FRONT FRAMES AND MY AIRBAGS DID NOT DEPLOY. BECAUSE THERE WERE NO INJURIES SUSTAINED IN THE ACCIDENT AND BECAUSE THE ACCIDENT WAS MORE THEN 50% MY FAULT MY LAWYER HAS ADVISED ME THAT THERE ARE NO LEGAL RAMIFICATIONS THAT I NEED TO TAKE. WHAT I WOULD LIKE TO DO IS INSURE THAT THE WORD IS OUT THERE FOR CONSUMERS TO BE AWARE THAT THIS IS POTENTIALLY A SERIOUS PROBLEM AND IT SHOULD BE ADDRESSED. I WILL BE CONTACTING THE SATURN DEALERSHIP TO INSURE THEY ARE AWARE OF THIS PROBLEM.	15-Sep-2003
WHILE DRIVING AT 30 MPH VEHICLE WAS INVOLVED IN A HEAD ON COLLISION. UPON IMPACT, AIR BAGS DID NOT DEPLOY. *AK	26-Sep-2003
I WAS THE DRIVER OF A 2003 SATURN ION 2 INVOLVED IN A FRONT END COLLISION WITH A PARKED VEHICLE, AND THE AIRBAGS DID NOT DEPLOY. WE DID HAVE SEAT BELTS ON. THE APPROXIMATE SPEED WAS 30-35 MPH. NONE OF THE INJURIES TO THE OCCUPANTS WERE SERIOUS. *LA	19-Nov-2003
I WAS IN AN HEADON COLLISION IN MY 2003 SATURN ION QUAD COUPE (PURCHASED 6/3/03) AND THE AIRBAGS DID NOT DEPLOY. I WAS TRAVELING AT 60MPH (THE HIGHWAY SPEED LIMIT IS 65) WHEN I HYDROPLANNED OFF THE HIGHWAY FROM THE CENTER LANE INTO THE MEDIAN GUARDRAIL. *AK	11-Dec-2003
WHILE DRIVING THE VEHICLE AT 100 MPH, THE DRIVER LOST CONTROL OF THE VEHICLE AND HIT A CONCRETE WALL HEAD ON. THE OWNER STATED THAT NEITHER THE FRONTAL NOR SIDE IMPACT AIR BAGS DEPLOYED UPON IMPACT. THE DRIVER SUSTAINED SEVERE INJURIES AS A RESULT. THE OWNER HAS MADE CONTACT WITH THE DEALERSHIP. *JB *NM	22-Dec-2003
AFTER REAR ENDING ANOTHER VEHICLE AT 45 MPH FRONT AIR BAGS DID NOT DEPLOY. CONSUMER SUSTAINED MINOR INJURIES. DEALERSHIP WAS NOTIFIED, BUT DID NOT RESOLVE THE PROBLEM. *AK	15-Mar-2004
WHILE DRIVING THROUGH AN INTERSECTION THE VEHICLE WAS HIT BY ANOTHER VEHICLE ON THE FRONT RIGHT SIDE. THE CONSUMER STATED THAT BOTH FRONTAL AIR BAGS DID NOT DEPLOY UPON IMPACT. THE DRIVER SUSTAINED MINOR INJURIES AS A RESULT. PLEASE PROVIDE ANY ADDITIONAL INFORMATION. *NM	10-May-2004
VEHICLE INVOLVED IN A CRASH AND AIR BAGS DID NOT DEPLOY. *MR THE CONSUMERS DAUGHTER WAS INVOLVED IN 2 INCIDENTS WITH THIS VEHICLE. THE DAUGHTER WAS HIT BY A HARLEY DAVIDSON F150 TRUCK IN THE FIRST INCIDENT WHERE SHE TURNED AND THE HARLEY HIT HER IN THE FRONT PASSENGER SIDE AND THE SECOND INCIDENT OCCURRED WHEN THE DAUGHTER DROVE 4 MILES, AND PARKED, THEN FIFTEEN MINUTES LATER THE GAS PEDAL STUCK AND SHE WAS UNABLE TO RELEASE IT. THE BRAKES HAD BECOME INOPERATIVE. THE VEHICLE WAS PLACED IN PARK ALONG WITH THE EMERGENCY BRAKE AND SHUT OFF. *SC *JB (DUPLICATE REPORT - SEE ODI REF. NO. 10074368 *MJJ)	10-May-2004

SATURN ION CONTAINED SIDE AND FRONT AIR BAGS, AND NEITHER DEPLOYED UPON IMPACT. *BF *SC (LAWYER [REDACTED] REPRESENTING [REDACTED] CONSUMER) WHEN THE CONSUMERS VEHICLE WAS STRUCK BY A VEHICLE THAT RAN A STOP SIGN, THE CONSUMER SPUN AROUND 180 DEGREES AND ENDED UP STRIKING A FENCE. *JB	12-Oct-2004
WHILE DRIVING 30 MPH CONSUMER'S VEHICLE WAS INVOLVED IN A FRONTAL COLLISION. UPON IMPACT, THE DUAL AIR BAGS DID NOT DEPLOY. NO INJURIES REPORTED. *AK	18-Jan-2005
DT: THE CONTACT OWNS A 2004 SATURN ION. THE VEHICLE WAS INVOLVED IN A FRONT END COLLISION ON JUNE 10 2005 THE VEHICLE MOVED ACROSS THE OTHER SIDE OF THE ROAD AND WAS HIT BY TWO OTHERS TRUCKS. THESE WERE MORE OF A SIDE IMPACT. IT WAS HIT HEAD ON BY A SEMI TRUCK THE DRIVER WAS EJECTED FROM THE VEHICLE AND HER HUSBAND WAS KILLED. HE HAS FILED A COMPLAINT WITH THE MANUFACTURER. BOTH OCCUPANTS WERE WEARING THERE SEAT BELTS. DAUGHTER FLEW OUT FROM UNDER THE SEAT BELT OF THE VEHICLE, SHE WAS THE DRIVING. THEY WERE GOING THE SPEED LIMIT, AND THE ROADWAY WAS WET. ON THE POLICE REPORT THEY LISTED IT AS HYDROPLANE. NONE OF THE AIR BAGS DEPLOYED. THERE WAS NO WARNING LIGHT ON PRIOR TO THE CRASH. THE VEHICLE WAS JUST IN THE SHOP FOR AN OIL CHANGE. THERE ARE PICTURES, POLICE REPORT AND REPAIR INVOICES AVAILABLE FOR THE ODI OFFICE. THE POLICE REPORT STATED THAT SHE HAD DONE NOTHING WRONG. *AK	10-Jun-2005
MY DAUGHTER (17 YEARS OLD) HAD AN ACCIDENT FOUR DAYS AGO. SHE HIT A TREE - HEAD ON GOING SOMEWHERE AROUND 40 MPH. NEITHER AIR BAG DEPLOYED. EMERGENCY PERSONNEL - AGAIN - WERE IN A STATE OF SHOCK AND AWE.	09-Jul-2005
THIS IS OUR FOURTH (4TH) GM VEHICLE INVOLVED IN A "TOTAL LOSS" ACCIDENT WHERE THE AIR BAGS DID NOT DEPLOY.	
3 VEHICLE ACCIDENT. I COLLIDED WITH ANOTHER VEHICLE AND MY AIR BAGS DEPLOYED. HOWEVER, MY DRIVER'S SIDE AIR BAG DEPLOYED INCORRECTLY. RATHER THEN ONE LARGE AIR BAG, IT CAME OUT IN TWO PIECES DUE TO A FAILURE IN THE STEERING WHEEL "OPENING" COMPLETELY TO RELEASE THE ENTIRE AIR BAG. THIS LEFT THE TOP PORTION OF THE STEERING WHEEL EXPOSED. *JB	02-Aug-2005
ACCIDENT AT APPROXIMATELY 40 MPH - AIRBAGS DID NOT DEPLOY. *NM	13-Sep-2005

<p>DEAR NHTSA ASSOCIATE,</p> <p>I HAD A 100% PARALLEL, FULL FRONTAL IMPACT, NO ANGLE, AS MY NEW CAR TRAVELING 35 MPH HIT A LARGE DELIVERY VAN TWICE THE WEIGHT OF MY VEHICLE WITH A SQUARE AND STEEL BUMPER THAT WAS STOPPED (1 MPH ACCORDING TO POLICE REPORT). THE FRONT AIRBAGS DID NOT DEPLOY AND MY NECK AND HEAD WERE IMPACTED ON TO THE STEERING WHEEL EVEN THOUGH I WAS USING MY SEATBELT PROPERLY. THE FORCE WAS SUFFICIENT TO STRAIN THE BELT AND INJURE MY HEAD. I HAD A CUT ON THE TOP OF MY FOREHEAD IN THE MIDDLE, A CONCUSSION, AND I AM CURRENTLY BEING TREATED FOR MIGRAINE TYPE HEADACHES BY A DOCTOR THAT HAVE OCCURRED DAILY SINCE THE ACCIDENT. I PLACED THE CAR INTO THE CARE OF A SATURN OWNED BODY SHOP FOR REPAIR AND ASKED THAT THE AIRBAG DEPLOYMENT SYSTEM BE TESTED FOR FUNCTIONALITY. INSTEAD, I WAS GIVEN A 1-800 NUMBER FOR SATURN CORPORATE HEADQUARTERS TO CALL. THEY SAID THE FIRST STEP WAS TO SEND ME THE AIRBAG MANUFACTURING INFORMATION BOOKLET AND TO CALL BACK AFTER READING IT. I DID SO AND ASKED THAT THE AIRBAGS BE TESTED WHILE IN THE CARE OF THE SATURN BODY SHOP, AS THE TYPE OF IMPACT AND MILES PER HOUR EXCEEDED THE MINIMUM STANDARDS FOR AIR BAG DEPLOYMENT CONTAINED IN THE MANUAL THEY SENT TO ME.</p> <p>INSTEAD OF GRANTING CLEARANCE TO THE DEALERSHIP TO TEST THE AIRBAGS, IN LIGHT OF MY VALID ARGUMENT OF THEIR DOCUMENTATION CONTRADICTIONS, SATURN CORPORATE INSTEAD ISSUED ME AN INTERNAL "CASE NUMBER" 1-17876541 AND TOLD ME SOMEONE IN THEIR LEGAL DEPARTMENT WOULD CONTACT ME WITHIN 6 TO 8 WEEKS. I MENTIONED I WOULD HAVE THE CAR BACK BEFORE THEN AND WOULD BE AFRAID AND NERVOUS DRIVING IT AS I AM SURE THE AIRBAG SYSTEM IN THE FRONT IS NOT FULLY FUNCTIONAL. THEY ACTUALLY SAID THEY COULD DENY TESTING THE SYSTEM AT ALL.</p> <p>NOTHING HAS BEEN DONE TO ADDRESS THE SAFETY ISSUE, THE BODY DAMAGE WAS FIXED, AT A COST OF ALMOST 7 THOUSAND DOLLARS TO THE FRONT END, INCLUDING CUTTING OUT A PIECE OF THE FRAME AND WELDING A NEW SECTION IN.*JB</p>	16-Sep-2005
<p>I WAS IN A FRONT END COLLISION ON !0-7-2005 . THE OTHER DRIVER WAS DRIVING A FORD PICK-UP TRUCK F-150 RANGER. NONE OF MY AIRBAGS DEPLOYED. THE TRUCK DRIVERS DRIVER AND PASSENGER SIDE AIR BAGS DEPLOYED. MY SATURN WAS A TOTAL LOSS. THE VIN # IS AS FOLLOWS: [REDACTED]</p> <p>I AM CONCERNED ABOUT THE ION AIRBAG SAFETY . MY DAUGHTER HAS A 2005 ION COUPE. PLEASE INVESTIGATE THIS MATTER AND INFORM ME OF RESULTS.</p> <p>THANK YOU,</p> <p>[REDACTED] *NM</p>	07-Oct-2005
<p>DT*: THE CONTACT STATED THAT THE FRONT DRIVER AIR BAG DID NOT DEPLOY DURING A FRONTAL IMPACT WHICH OCCURRED WHILE DRIVING 45 MPH. THERE WAS PRE-IMPACT BRAKING AND THE SEAT BELT WAS WORN. THE AIRBAG WARNING LIGHT WAS NOT ILLUMINATED PRIOR TO THE CRASH. THE DRIVER DID NOT SUFFER ANY INJURIES.</p>	20-Jun-2006
<p>AIR BAG DID NOT DEPLOY. *NM</p>	20-Jun-2006

I WAS INVOLVED IN A FRONT END COLLISION WHICH RESULTED IN A TOTAL LOSS OF MY VEHICLE. THE AIRBAGS DID NOT DEPLOY. (THE ENGINE WAS PUSHED BACK APPROXIMATELY 4 INCHES.) WHILE I WAS WEARING THE SAFETY BELT, I SUSTAINED INJURIES TO MY HEAD, CHEST, AND KNEES. *JB	11-Nov-2006
AIRBAG DID NOT DEPLOY AFTER AN AUTO ACCIDENT. I WAS CUT OFF BY A CAR FROM THE RIGHT LANE WHILE TRAVELING ON I280 IN NORTHERN CALIFORNIA. I WAS FORCED INTO THE NEXT LANE TO MY LEFT TO AVOID A COLLISION - I LOST CONTROL OF THE CAR AND HIT THE GUARDRAIL HEAD ON. I WAS TRAVELING BETWEEN 60-65 MPH PRIOR TO THE ACCIDENT. THE CAR WAS A RENTAL (ENTERPRISE-RENT-A-CAR) - MY ATTEMPTS TO RECEIVE INFORMATION AS TO ANY POSSIBLE DEFECTS OF THE CAR FROM ENTERPRISE (& ELCO ADMIN SERVICES) HAVE PROVED FRUITLESS. I REPEATEDLY INFORMED ENTERPRISE THAT I WAS NOT INJURED AND THAT FOR MY OWN PIECE OF MIND I SIMPLY WANTED TO KNOW WHY THE AIRBAG DID NOT DEPLOY. *NM	27-Nov-2006
TL*- THE CONTACT STATED THAT WHILE DRIVING THE 2004 SATURN ION AT ABOUT 30 MPH, ANOTHER VEHICLE TURNED IN FRONT OF THE CONTACT'S VEHICLE AND WAS UNABLE TO AVOID HITTING THE OTHER VEHICLE. SHE HIT THE PASSENGER REAR SIDE OF THE OTHER VEHICLE WITH THE FRONT OF THE HER VEHICLE. SHE STATED THAT THE PASSENGER SIDE AIRBAG DEPLOYED, BUT NO ONE WAS SITTING ON THE PASSENGER SIDE OF THE BAG. THE DRIVER SIDE AIRBAG DEPLOYED, BUT DIDN'T DEPLOY FULLY. THE AIR BAG NEVER CAME IN CONTACT WITH HER. THERE WAS SMOKE COMING FROM THE STEERING COLUMN WITH THE AIRBAG. THE CONTACT REMOVED HERSELF FROM THE VEHICLE AFRAID THERE COULD HAVE BEEN A FIRE. SHE CALLED 911 AND THE POLICE REPORTED THE CRASH. THE CONTACT FELT THAT THE DRIVER'S SIDE AIRBAG DIDN'T DEPLOY PROPERLY. THE CONTACT SUSTAINED MINOR INJURIES. THE FAILURE MILEAGE WAS 25900, AND THE CURRENT MILEAGE WAS 26000. *AK	28-Feb-2007
I HIT THE REAR OF A TRUCK HARD ENOUGH THAT MY RADIATOR WAS CRUSHED AGAINST MY ENGINE BLOCK. HOWEVER, THE AIRBAGS IN MY CAR DID NOT DEPLOY AT ALL. I KNOW I HAD TO HAVE HIT THE TRUCK IN FRONT OF ME SOMEWHERE BETWEEN 20 AND 50 MPH. WE ARE STILL WAITING TO HEAR BACK FROM OUR DOCTOR TO SEE IF MY WIFE AND I ARE OK, AND I HAVE NOT HAD MY CAR REPAIRED YET FOR I AM STILL WAITING FOR THE CAR INSURANCE COMPANY. IF THIS IS NORMAL I WOULD LIKE TO KNOW AT WHAT POINT WERE THE AIRBAGS IN A 2005 SATURN ION TYPE 1 SUPPOSE TO DEPLOY IN A FRONT END COLLISION. *AK	16-Mar-2007

Recvd Dt	Fire_Yn	Num_Injured	Num_Deaths	Num_Occurrences	Police_Rpt_Yn
01-Aug-2003	N	-	-	1	Y
15-Jan-2004	-	-	-	-	-
30-Sep-2003	N	-	-	-	Y
20-Nov-2003	N	5	0	1	Y
05-Jan-2004	N	1	0	1	Y
17-Mar-2004	N	1	-	1	Y
23-Mar-2004	N	1	-	1	Y
27-May-2004	N	1	-	1	Y
23-Jun-2004	N	-	-	2	N

10-Dec-2004	N	1	-	1	Y
27-Jan-2005	N	0	0	1	Y
15-Jul-2005	N	1	1	2	Y
13-Jul-2005	N	6	0	4	Y
05-Aug-2005	N	3	0	1	Y
13-Sep-2005	N	1	0	1	Y

05-Oct-2005	N	2	0	1	Y
06-Nov-2005	N	2	0	1	Y
29-Jun-2006	N	-	-	1	Y
29-Jun-2006	N	0	0	1	Y

21-Nov-2006	N	1	0	1 Y
08-Jan-2007	N	0	0	1 Y
02-Mar-2007	N	1	0	1 Y
26-Mar-2007	N	2	0	2 Y

Property Damage Yn	Crash Yn	Cons Title	Cons Fname	Cons Lname	Cons Mi	Org Name
Y	Y					
-	Y	-				
Y	Y					
Y	Y					
Y	Y					
Y	Y	-			-	-
Y	Y					
Y	Y					
Y	Y					

Y	Y					
Y	Y					
Y	Y					
Y	Y	MS.				-
Y	Y					
N	Y	MS.				-

Y	Y	[REDACTED]				-
N	Y	[REDACTED]				-
Y	Y					
Y	Y	-	[REDACTED]			-

Y	Y	[REDACTED]				-
Y	Y					
N	Y					
Y	Y	[REDACTED]				-

[REDACTED]		
[REDACTED]		

State Cd	Zip Cd	Phone Home	Phone Work	Email	Make
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN
				-	SATURN

				-	SATURN
				-	SATURN
					SATURN
					SATURN
					SATURN
					SATURN

[REDACTED]					SATURN
				-	SATURN
				-	SATURN
[REDACTED]					SATURN

Model	Model_Yr	Mfr_Name	Vin	Curr_Mileage
ION	2003	GENERAL MOTORS CORP.		-
ION	2003	GENERAL MOTORS CORP.		-
ION	2003	GENERAL MOTORS CORP.		-
ION	2003	GENERAL MOTORS CORP.		6385
ION	2003	GENERAL MOTORS CORP.		15000
ION	2003	GENERAL MOTORS CORP.		-
ION	2003	GENERAL MOTORS CORP.		-
ION	2004	GENERAL MOTORS CORP.		82073
ION	2004	GENERAL MOTORS CORP.		-

ION	2003	GENERAL MOTORS CORP.		-
ION	2004	GENERAL MOTORS CORP.		-
ION	2004	GENERAL MOTORS CORP.		20000
ION	2003	GENERAL MOTORS CORP.		19000
ION	2004	GENERAL MOTORS CORP.		34000
ION	2004	GENERAL MOTORS CORP.		21000

ION	2004	GENERAL MOTORS CORP.	[REDACTED]	15550
ION	2005	GENERAL MOTORS CORP.	[REDACTED]	6755
ION	2005	GENERAL MOTORS CORP.	[REDACTED]	26000
ION	2005	GENERAL MOTORS CORP.	[REDACTED]	26000

ION	2005	GENERAL MOTORS CORP.		280000
ION	2007	GENERAL MOTORS CORP.		-
SATURN ION	2004	GENERAL MOTORS CORP.		26000
ION	2005	GENERAL MOTORS CORP.		31000

Failure_Mileage	Orig_Owner_Yn	Confidential_Yn
300	Y	Y
3600	-	-
-	N	Y
-	Y	Y
-	Y	Y
-	Y	N
9400	Y	Y
-	N	Y
-	N	Y

	- Y	Y
24800	Y	Y
	- Y	Y
19000	Y	N
	- Y	Y
21000	Y	N

15450	Y	N
6755	Y	N
26000	Y	Y
26000	Y	N

	- N	N
5620	N	Y
25900	N	Y
31000	Y	N



Service Bulletin

File In Section: 09 - Restraints

Bulletin No.: 06-09-41-008A

Date: January, 2007



TECHNICAL

Subject: Airbag Readiness Light ON with DTC B0081 or B0092 Set in Passenger Presence System (PPS) SDM (Remove Passenger Seat Cushion Cover and Allow to Dry)

Models: 2005-2007 Buick Allure (Canada Only), LaCrosse
2007 Chevrolet Malibu
2006-2007 Pontiac G6, Grand Prix
2006-2007 Saturn ION, VUE
2007 Saturn Aura

This bulletin is being updated with revised Subject information. Please discard Corporate Bulletin Number 06-09-41-008 (Section 09 — Restraints).

Condition

Some customers may comment that the airbag readiness light is ON. Technicians may find DTC B0081 or B0092 set in the Passenger Presence System (PPS) sensing and diagnostic module (SDM).

Cause

This condition may be caused by a wet passenger seat cushion.

Correction

Prior to performing any diagnostics, identify which vehicle communication system is found in the vehicle using the table below.

Model Year	Make/Model	Vehicle Communication System
2005-2006	Buick Allure, LaCrosse	Class 2
2007	Buick Allure, LaCrosse	
2007	Chevrolet Malibu	GM LAN
2006-2007	Pontiac G6	
2006-2007	Pontiac Grand Prix	Class 2
2006-2007	Saturn ION	
2006-2007	Saturn VUE	
2007	Saturn Aura	GM LAN

- GM LAN sets SDM DTC B0081 with symptom DTC 71 and flash DTC 034 or 056.
- Class 2 sets SDM DTC B0092 with NO symptom DTC and flash DTC 034 or 056.

Finding Flash DTCs

1. Verify that DTC B0081 with symptom DTC 71 (on vehicles with PPS version 3.4) OR DTC B0092 with no symptom DTC (on vehicles with PPS version 2.2) is present.
2. If the DTC is present, turn ignition ON with the engine OFF. Using the scan tool, go to the passenger presence system (PPS) menu, then retrieve the DTCs. Refer to DTC B0081 or B0092 in SI.
3. If the PPS has any current or history DTCs stored, you must address the PPS DTCs first. Refer to the Diagnostic Trouble Code (DTC) List - Vehicle in SI.

Important: PPS flash DTCs are listed at the very end (bottom) of the entire DTC list in SI.

4. Check for flash DTCs. If DTC 034 or 056 are present, refer to procedures below.

Flash DTC 034

1. Turn the ignition ON with the engine OFF. Use the scan tool to clear all SIR and PPS DTCs. Refer to DTC B0081 or B0092 in SI.
2. Rezero the PPS. Refer to Passenger Presence System Rezeroing in SI.
3. Check for DTC 034.
4. If flash DTC 034 is set and the cushion is NOT wet, follow the normal diagnostics for this flash DTC. Refer to DTC 034 in SI.
5. If flash DTC 034 is set and the cushion is wet:
 - 5.1. Remove the cushion cover. Allow the cushion to dry for 48 hours (use a fan to assist in the drying process). Refer to Front Seat Cushion Cover Replacement in SI.
 - 5.2. After the cushion has dried, clear the DTC.
6. Use the Tech 2[®] scan tool to re-check for codes.
 - If the code does not return, the issue has been corrected. DO NOT replace the cushion and module.

Important: If replacement of the PPS cushion sensor and module assembly is required, these parts will be sent in a set (cushion and module) and must be replaced as a set, since they are calibrated at the manufacturer as a set.

- ONLY replace the PPS cushion and module assembly if the DTC returns after the cushion is thoroughly dry.

Flash DTC 056

1. Turn the ignition ON with the engine OFF. Use the scan tool to clear all SIR and PPS DTCs. Refer to DTC B0081 or B0092 in SI.
2. Rezero the PPS. Refer to Passenger Presence System Rezeroing in SI.
3. Check for DTC 056.
4. If flash DTC 056 is set and the cushion is NOT wet, follow the normal diagnostics for this flash DTC. Refer to DTC 056 in SI.
5. If flash DTC 056 is set and the cushion is wet:
 - 5.1. Remove the cushion cover. Allow the cushion to dry for 48 hours (use a fan to assist the drying process). Refer to Front Seat Cushion Cover Replacement in SI.
 - 5.2. After the cushion has dried, clear the DTC.
6. Use the Tech 2[®] scan tool to re-check for codes.
 - If the code does not return, the issue has been corrected. DO NOT replace the cushion and module.

Important: If replacement of the PPS cushion sensor and module assembly is required, these parts will be sent in a set (cushion and module) and must be replaced as a set, since they are calibrated at the manufacturer as a set.

- ONLY replace the PPS cushion and module assembly if the DTC returns after the cushion is thoroughly dry.

Warranty Information

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
C9780*	Remove Seat Cushion Cover, Rezero PPS	1.2 hrs
Z7902	2-Day Courtesy Transportation	—
Z4632 (Saturn Only)	2-Day Courtesy Transportation	—
*This is a unique labor operation for bulletin use only. It will be not be published in the Labor Time Guide.		

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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~~1001710~~ 100192 ID

BULLETIN-SIT-BULLETIN-1752381: PIC3799A

SIR Light On/Service Airbag Warning Message with DTC B0081

2006 Chevrolet Cobalt

2006 Chevrolet HHR

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern:

A customer might have a SIR light on with any of the following codes set in the SDM.

- * DTC B0081 3A: Passenger Presence System Incorrect Component Installed
- * DTC B0081 39: Passenger Presence System Internal Electronic Failure
- * DTC B0081 71: Passenger Presence System Invalid Serial Data Received
- * With Passenger Presence System (PPS) Flash Code of DTC 023

Note

You will only find this 023 DTC by going through the (PPS) menu.

Recommendation/Instructions:

There are two things to check before getting to far into diagnostics.

1. Check for a loose terminals at the connector for the "Seat Belt Tension Sensor" this sensor (built into the retractor) has a pigtail on it about 1 foot from the retractor. This connector is located under the right rear sill plate on the 4-door sedan, and rearward under the sill plate on a 2 door coupe.
2. Check for a pinched/cut wiring harness under the passenger side seat assembly. This harness can get caught in the seat track frame/rail assembly.

Note

This pinched harness condition is more prone to occur on vehicles built before 9/22/05

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

10020881

BULLETIN–SIT–BULLETIN–1872063: PIT4011E

Air Bag Indicator On

2005–2007 Buick Allure, Lacrosse, Lucerne, Rainier

2006–2007 Cadillac DTS

2007 Cadillac Escalade Models

2007 Chevrolet Avalanche, Equinox, Silverado, Suburban, Tahoe

2005–2007 Chevrolet Cobalt, SSR, Trailblazer, Trailblazer EXT

2006–2007 Chevrolet Corvette, HHR, Impala, Malibu Models (except Classic), Monte Carlo

2005–2007 GMC Envoy Models

2007 GMC Acadia, Sierra, Yukon, Yukon Denali, Yukon XL, Yukon Denali XL

2005–2007 Pontiac Pursuit

2006–2007 Pontiac Solstice

2007 Pontiac Torrent

2005–2007 Saab 9–7X

2007 Saturn Aura, Outlook, Sky

This PI is being updated to update the model list. Please discard PIT4011D.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern:

You may experience an intermittent or current SIR indicator on the Instrument Panel Cluster (IPC) with DTC B0012 0E, b0013 0E, b0016 0E, b0019 0E, b0020 0E, b0022, b0023 0E, B0033 0E, B0040 0E, or B0042 set in the sensing and diagnostic module (SDM)

Note

This PI only applies to the DTC's as listed above. Example, if you have a dtc B0022 symptom 0D, this pi DOES NOT apply because it is only for a B0022. DTC's B0022 and B0042 will not have symptom codes because they are for older models like the Trailblazer, Envoy, etc, and did not use symptom codes.

Recommendation/Instructions:

Inspect for a loose, missing, or broken Connector Position Assurance (CPA) retainer at the air bag for the set dtc. If loose, remove the connector and reinstall correctly by first pushing the connector body in completely and then pushing in the CPA completely. If the CPA is broken, missing, or will not seat in connector correctly, replace the CPA retainer with part number: 54590003 (Orange CPA) that is located in the connector tray of the terminal repair kit.

Note

If the CPA retainer part number: 54590003 (Orange CPA) can't be located in terminal repair kit, contact Kent Moore Tools @ 1–800–GM–Tools to obtain a new package of 5.
Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

1001 3542

BULLETIN–SIT–BULLETIN–1588790: PIC3356

SIR Light On With Codes B0012 and B0013

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in the PI.

Condition/Concern:

SIR light on codes B0012 and B0013 with possible symptom codes 01, 02, 04, 0D, or 0E.

Recommendation/Instructions:

Vehicles may have a SIR light on with code B0012/B0013 and or symptom codes 01, 02, 04, 0D, or 0E. If your vehicle has this condition you are to replace the SIR coil assembly.

Please follow this diagnosis process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

Models:

(2005 Pontiac Pursuit) and (2005 Chevrolet Cobalt)



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Memorandum

Subject: EWR Referral
2005-06 Chevrolet Cobalt

Date: March 6, 2007

From: Christina Morgan
Chief, EW Division

Author: Bill Duckwitz

To: Greg Magno
Chief, Defect Assessment Division

Vehicle of Concern:

EWR Reporting Quarter: 2006Q2
Manufacturer: General Motors Corporation (GM)
Subject Vehicle: 2005-06 MY, Model: Chevrolet Cobalt
Crash Date(s): Multiple Crash Events 2/7/05 – 2/12/07
Reporting Category: L
Population: 280,000 (est.)
EWR Component Code: Air bags

Summary:

NHTSA/ODI sent a Death and Injury (DI) Inquiry to GM concerning a fatal crash involving a 2006 Chevrolet Cobalt that occurred on 1/21/06. GM submitted several documents that indicated the subject vehicle experienced the fatal crash as it spun out of control and struck multiple trees. The driver died a few days later in the week. The decedent's attorney did not present a specific defect claim, however, the vehicle was a rental, and the Enterprise rental car company alleged the vehicle's airbag system did not deploy during the crash. GM indicated that their investigation did not include an assessment of the alleged defect. Further details of the crash event were offered in the DI response package.

A search of Safety Recalls, VOQs, Field Reports, and ODI pursuits revealed 15 VOQs, 28 Field Reports that indicated front impact collisions where the airbag system allegedly did not deploy during the crash. There are 43 crashes that yielded a total of 27 injuries and 4 fatalities.

Other Notes:

There are no apparent Safety Recalls, or Pursuits related to these crash events. However, NHTSA/ODI was notified on January 16, 2007 of GM's Safety Recall Number 07V014 involving 2005 Model Year Cobalt vehicles that head impact protection may be inadequate



NHTSA-HECC-004617

because the vehicle were not equipped with an optional roof-mounted side impact air bags. Additionally, NHTSA/ODI was notified of three GM TSBs published in January 2005 concerning airbag system issues, TSB numbers 10013542, 10019210, 10020881 (see attachments) which may have affected the warranty data.

The warranty claim rate for the cobalt is significantly higher than other GM products and other manufacturers' products. Attached are aggregate data for the Cobalt and some peer products and the warranty claims for the 2005 Cobalt and other 2005 GM products. Please let us know if you have any questions about this package.

Recommendation: IE Screening